Sep 12 '50 C

THE JOURNAL OF GENERAL EDUCATION

VOLUME II October 1947 NUMBER 1 — 4

STATE UNIVERSITY OF IOWA

IOWA CITY

The Journal of General Education

published quarterly by the State University of Iowa, is intended to serve instructors and administrative officers in liberal arts colleges, professional schools, teachers colleges, junior colleges, and the secondary schools. More specifically, it is designed to provide an outlet for thoughtful discussions of the issues and experiments of general education. To assure representative and timely content, a board of editorial consultants assists the editor each quarter in selecting the papers to be included.

EARL JAMES MCGRATH, *Editor*

Board of Editorial Consultants

BYRON S. HOLLINSHEAD
B. LAMAR JOHNSON
LENNOX GREY
W. H. COWLEY
RAPHAEL DEMOS
W. E. WICKENDEN
FLORA M. RHIND
DOAK S. CAMPBELL
LEWIS MUMFORD
WILLIAM P. TOLLEY
T. R. MCCONNELL
ROBERT J. HAVIGHURST
JOHN W. HARBESON
RUSSELL M. COOPER

PUBLISHED October, January, April, and July. . . . SUBSCRIPTION PRICE: $3.00 a year. . . . EDITORIAL OFFICE: 108 Schaeffer Hall, Iowa City, Iowa. . . . Checks should be made payable to *The Journal of General Education*, Department of Publications, State University of Iowa, Iowa City.

Entered at the post office at Iowa City, Iowa, as second-class matter December 9, 1946, under the Act of August 24, 1912.

Copyright, 1947, By the University of Iowa Press

Contents for October 1947

EDUCATION FOR WORK AND THE RESPONSIBILITIES OF CITIZENSHIP (An Editorial), Earl J. McGrath, *Dean of the College of Liberal Arts, State University of Iowa* 3

AN EXPERIMENTAL COURSE IN HUMAN RELATIONS IN HARVARD COLLEGE, Wallace Brett Donham, *George F. Baker Professor of Administration, Harvard University* 8

THE LAWYER'S EDUCATION, The Honorable Francis M. Shea, *Practicing Washington Lawyer and Former Assistant United States Attorney General* 17

SOME POSTULATES OF GENERAL EDUCATION, Charles Leonard Stone, *Professor of Psychology and Chairman of the Committee on Educational Policy, Dartmouth College* 24

HISTORISMUS FOR THE UNDERGRADUATE, John T. Horton, *Professor of History and Government, University of Buffalo* . . 27

FACULTY ADVENTURES IN EDUCATIONAL PLANNING, Russell M. Cooper, *Chairman, Department of General Studies, University of Minnesota* 35

GENERAL EDUCATION AND STUDENT EXPERIENCE IN CREATIVENESS, G. W. Stewart, *Professor of Physics, State University of Iowa* 41

TOWARD BETTER GRADUATE EDUCATION, J. I. Sewall, *Professor of Art, University of Buffalo* 45

WHO SHOULD TEACH COMMUNICATION?, Porter G. Perrin, *Chairman, Department of English, Colgate University* . . . 53

CONSUMER MATHEMATICS AND LIBERAL EDUCATION, Lucien Blair Kinney, *Professor of Education, Stanford University* . . 60

THE CLASSICS IN GENERAL EDUCATION, Herbert Newell Couch, *Professor of Classics, Brown University* 68

BASIC BIOLOGICAL SCIENCE AT MICHIGAN STATE COLLEGE, Chester A. Lawson, *Head, Department of Biological Science, Michigan State College* 75

Education for Work and the Responsibilities of Citizenship

AN EDITORIAL

DURING THE past fifteen years members of the upper classes have often deprecatingly observed that the policies of the United States government have increasingly reflected the views of citizens of less than average education and culture. The government has been charged with favoring the unenlightened and the improvident at the expense of the well-educated and the enterprising. By 1940 such criticisms had become sufficiently widespread to cause the President of the United States at the bicentennial ceremonies of the University of Pennsylvania to analyze the charges and to explain the prevailing philosophy of government.

This journal is not concerned with political theories nor with their practical consequences. It *is* concerned with the relationship between education, on the one hand, and political leadership and the well-being of the commonwealth, on the other. Society may rightfully expect those who have had superior educational advantages to use their capabilities in the improvement of the life of their time. Practically this means that members of the professional and managerial classes, having had considerably more education than the common run of men, might reasonably be expected to be active in civic affairs. But are they? Apparently not! They do not hold their proper share of political offices, nor are they conspicuous for their interest in public matters. The census of 1940 shows that of the elective officers at all government levels many had only an eighth-grade education or less. Devoted and able though they may be, the fact remains that these public servants did not come from the group of citizens who had the advantages of higher education. This situation would be more alarming if the views of educated persons on domestic and international problems conspicuously exhibited more open-mindedness, critical judgment, or concern for the general welfare than those of their countrymen with less education. But they seldom do!

If those who have had extraordinary educational opportunities have not exercised political and social leadership, their apathy toward matters of public concern is to a considerable extent the result of faulty education, and especially of faulty higher education. They have been educated to be proficient technicians or highly specialized professional workers with little understanding of, and little interest in, matters not closely related to their vocations or the routine concerns of their personal lives and fortunes — and this statement holds for many of the graduates of the colleges of arts and sciences as well as of those of the professional and technical schools. The fact is that many of the graduates of our colleges and universities have been trained, not educated. They may, to be sure, have learned an impressive body of technical information and they may have mastered a set of highly specialized professional skills. They can make anything from sewing machines to skyscrapers. They can do anything from flying around the world in three days to destroying thousands of human beings in three seconds. But with the persistent problems of humanity they are poorly equipped to cope. And unfortunately they are less interested in such matters except when an atomic bomb temporarily undermines their faith in tech-

niques and troubles their consciences about their disregard of human values. They have gained little in wisdom. They do not understand contemporary civilization; nor do they possess the wit to solve its major problems. As a trenchant critic of modern higher education has put it:

> Compared with the medieval university, the contemporary university has developed the mere seed of professional instruction into an enormous activity; it has added the function of research; and it has abandoned almost entirely the teaching of transmission of culture.
>
> It is evident that the change has been pernicious. Europe today is taking its sinister consequences. The convulsive situation in Europe at the present moment is due to the fact that the average Englishman, the average Frenchman, the average German are *uncultured*: they are ignorant of the essential system of ideas concerning the world and man, which belong to our time. This average person is the new barbarian, a laggard behind the contemporary civilization, archaic and primitive in contrast with his problems, which are grimly, relentlessly modern. This new barbarian is above all the professional man, more learned than ever before, but at the same time more uncultured — the engineer, the physician, the lawyer, the scientist.[1]

These shortcomings of higher education, with their concomitant cultural deficiencies, are at this juncture in the affairs of men particularly serious; for we now face unprecedented problems and the generation which will have to solve these problems, or failing to do so live in the resulting chaos, values vocational education far more highly than liberal studies. The seductively meretricious appeal of specialism is not new. But the gradual transformation of the liberal arts colleges by the steady invasion of vocational subjects and the professionalization by the graduate schools of what were hitherto genuinely liberal subjects are now being quickened by the veteran's eagerness to complete his education quickly and to get a job. A large proportion of ex-servicemen are registered in commerce, engineering, chemistry, preprofessional programs, and other liberal arts courses with a vocational orientation. If students were to pursue the customary instruction in such fields their education would contain elements designed to broaden their view of life and their intellectual interests, for these curricula ordinarily include English, mathematics, psychology, and other literary and scientific subjects calculated to give the student an understanding of the physical world and of the human beings who inhabit it. But advisers and committees on requirements for degrees know that many students are now asking to be relieved of these general requirements which they say "will not help me earn any bread and butter."

The veteran whose life and education were interrupted by military service deserves every aid in reaching his vocational and other goals as rapidly as possible. Whenever feasible, formal regulations and requirements which needlessly retard his progress should be set aside. Students and their advisers, however, should know the answers to two questions before yielding to the impulse to shun instruction which has no apparent practical objective. These two questions are: Does a high degree of specialized study without a broad education guarantee vocational success? and: Does such a restricted education prepare the student for the important responsibilities of citizenship and for a rich personal life outside of working hours? Both questions can be answered in the negative.

Many students assume that by concentrating heavily in subject matter akin to their future professional studies or their vocation they will gain an advantage over their classmates who elect more representative courses. Premedical and predental students, for example, often make up their college programs largely of courses in natural science, and those in commerce select courses in accounting, business law, and insurance. The student in journalism elects much instruction in the techniques of writing on the assumption that he is thus increasing his chances of becoming a Pulitzer prize winner. These students are misguided, for specialization in college guarantees success neither in professional school nor in a vocation.

Some years ago studies of the relationship between undergraduate study and standing in the professional schools of Harvard University dis-

[1] José Ortega y Gasset, *Mission of the University* (translated by Howard Lee Nostrand), (Princeton: Princeton University Press, 1944), pp. 57-58.

closed that those who majored in the natural sciences had no better records in medical school than other students.[2] Nor did they achieve any greater eminence after graduation. Grades in the law school were similarly unrelated to any particular pattern of undergraduate instruction. More recent studies at the University of Buffalo likewise show no positive relationship between the undergraduate major and success in the schools of medicine and dentistry.[3] It is the opinion of many leading journalists that no amount of skill in writing can offset the disadvantages of narrow education and limited experience, a point of view cogently developed by Wilbur Schramm in the January 1947 issue of this publication. Likewise those who recruit promising college graduates for positions in business and industry are less concerned about the amount of specialized instruction such students have had than about the range of their intellectual experiences and the flexibility of their minds. Recognizing that deficiencies in general educational background will only in rare instances be made up after college, many industries are selecting future employees from among those who have had a good record and a rounded education, leaving such specialized training as is needed later to be learned at work.

Those who are attracted by early specialization should not overlook the additional fact that many graduates follow a calling only remotely related to their special undergraduate interests. Even graduates of professional schools in which instruction is intended to prepare students for the practice of a specific profession enter occupations requiring knowledge and abilities quite different from those learned in the classroom. A large percentage of those who receive a degree in law, for example, do not become practicing lawyers, and even physicians enter occupations for which the specialized training of the medical school did not prepare them. And in vocations for which the preparation is less systematized, occupational changes are more frequent and further removed from preparatory study. This shifting from one kind of work to another will increase with social mobility and with the multiplication of new jobs. Hence students would do well to pursue a college program which provides the greatest vocational adaptability. Moreover, studies of the American Youth Commission reveal that only a very small percentage of occupations open to American youth require any special training that cannot be given better on the job than in an educational institution.

Students should also bear in mind the important part which general abilities play in gaining the material rewards of life. Even the success of the most competent specialist depends upon general capacities. The man of deep understanding, of rich culture, of flexible mind will not long be at a disadvantage in competition with those who have merely acquired a vast amount of technical information. The dramatically swift success of the narrowly trained practitioner is ultimately overshadowed by the achievement of the person of philosophic grounding. Though difficult to measure, the influence of these imponderables is very real, and college graduates often realize too late that they have unwisely neglected the studies which insensibly shape both mind and character for an intelligent and full life — whatever the circumstances of that life may be. Speaking of these intangible values of general education, a prominent businessman has said:

> When I refer to a sense of the fitness of things as being one of the characteristics of a liberally educated man, I am thinking not merely of urbanity — the ability to conduct oneself under any given set of circumstances as a gentleman. My underlying thought goes further than that and applies with equal force to a man's moral fibre. A sense of the fitness of things, as I employ the term, is not mere social polish or intellectual veneer. It penetrates a man's whole being. It leads him intuitively to reject the spurious and the false, to welcome the genuine and the true; to repulse baseness and vulgarity, and welcome nobility and refinement in thought, emotion, and action.[4]

[2] William T. Foster, *Administration of the College Curriculum* (Boston: Houghton Mifflin Company, 1911), pp. 222-32.

[3] See *Journal of the Association of American Medical Colleges*, XX (September 1945), 273-80, and *Journal of Higher Education*, XVI (October 1945), 351-57.

[4] H. W. Prentis, Jr., *General Education for Business and Industry*, Franklin and Marshall College, Lancaster, Pa., 1947.

For the sake of argument the assumption has been tentatively accepted that the principal end of education is to increase the material well-being and the personal satisfaction of the individual. It has been shown, however, that those who seek vocational success and the monetary and social rewards that go with it will often be disappointed, if they expect to gain these satisfactions through a narrow education. But such an assumption is false, for the chief purpose of education is not to increase the bankroll, the family prestige, or the size of the estate but to improve the common lot of mankind. The social purposes of education are primary; the individual, secondary.

If the mass of the voters have questioned the public leadership of the "well-educated" is it not primarily because that leadership has been insufficiently conscious of the general welfare? And is not this insensibility to the larger good of society a consequence of an education which has neglected the responsibilities of citizenship in the interests of vocational competence and individual gain? And is it not due also to the intellectual barriers which contemporary college education erects between one group of specialists and another? How can we think together about our common problems if our separate systems of ideas make a meeting of minds impossible? We can't! The ineptitude with which current social and political problems are being handled is a result very largely of our failure to envisage the social goals of education and our inability to think together about the means by which they are to be reached.

As a people we lack a common intellectual or spiritual meeting ground. This cultural disunity is a result of our specialized education. It cannot be corrected by requiring every high school and college student to take a course in civics or American history. This easy escape from serious thought about the matter has already been too widely employed. It is not with means but with ends that we must be concerned. A knowledge of the philosophy and the instrumentalities of government will help a man but little unless he has the wisdom to use the government for proper ends. If he is to realize his own best potentialities in his own interest and in the interest of society, he must understand the thinking of his fellow citizens. But the systems of ideas of the specialists, the doctor, the engineer, the lawyer, the businessman, the social worker are sufficiently different to erect intellectual barriers between them — obstacles to any well-considered common plan of social action for the improvement of the common weal.

Now how can these obstacles be removed? The rapid growth of new knowledge makes it utterly impossible to keep the members of society conversant with developments in the major fields of intellectual endeavor. Specialized knowledge will and should continue to be produced. Hence, the artist cannot know all about the latest developments in science, nor can the banker keep abreast of the most recent advances in social work. It is not necessary that they should. They need to know only a small body of essential facts, but they must have an understanding of the principles in the various disciplines, and the intellectual methodology of the workers in those fields. The scientist, the literary man, the businessman, and the philosopher employ sufficiently different methods of analyzing reality, of looking at life, to prevent a meeting of the minds. If social unity is to be achieved it can be only by giving every member of society, or at least the members of the directive classes, an understanding of the modes of thought of the various specialist groups.

To provide this common intellectual equipment basic reorganizations of the curriculum and a considerable shift in emphasis in teaching will be required. Students who do not intend to spend their lives working in a particular field of knowledge (and these generally constitute the vast majority in any introductory course) should not be required to spend their time learning the detailed factual material commonly found in such courses. Instruction in the various disciplines for such students should exhibit representative problems and the intellectual processes employed for their solution. In physical science courses, for example,

those who do not intend to follow a vocation requiring detailed scientific knowledge should be made familiar with the historical development of scientific thought and the principles of scientific method. No attempt need be made to "survey" the field of science, a wholly impossible undertaking which featured and discredited early programs of general studies. Encyclopedic knowledge of facts is no longer an attainable educational objective. Knowledge of intellectual methodology, with a comprehension of a minimum of factual information in the various broad disciplines, is all modern education can hope to achieve.

If students acquire an understanding of the various intellectual methodologies and the ability to use them, the scientist should be able to understand the artist, the literary man should be able to follow the reasoning of the sociologist, the philosopher should comprehend the thinking of the scientist, and the average college graduate, regardless of his vocational goal or his personal intellectual preferences, should have a sufficient understanding of these various ways of interpreting life to discuss the common problems of our time intelligently with his countrymen. As Ortega y Gasset points out:

> The man who does not possess the concept of physics (not the science of physics proper, but the vital idea of the world which it has created), and the concept afforded by history and by biology, and the scheme of speculative philosophy, is not an educated man. Unless he should happen to be endowed with exceptional qualities, it is extremely unlikely that such a man will be, in the fullest sense, a good doctor, a good judge, or a good technical expert. But it is certain that all the other things he does in life, including parts of his profession itself which transcend its proper academic boundaries, will turn out unfortunately. His political ideas and actions will be inept; his affairs of the heart, beginning with the type of woman he will prefer, will be crude and ridiculous; he will bring to his family life an atmosphere of unreality and cramped narrowness, which will warp the upbringing of his children; and outside, with his friends, he will emit thoughts that are monstrosities, and opinions that are a torrent of drivel and bluff.[5]

With a broad understanding of contemporary thought, those who have had the advantages of higher education may play their proper and crucial part in determining the social policies which may decide the fate of the nation and indeed of the world. Educating students for these larger responsibilities of citizenship, based on a broad understanding of contemporary life, should take precedence over the cultivation of the habits and skills of the scholar or the practitioner. Until the members of the educated classes possess a common set of ideas, common intellectual resources, it will be futile to hope for a resolution of our present difficulties which are constantly nourished by the ignorance, the prejudices, and the provincialism of the narrowly educated mind. In the absence of intellectual and spiritual unity, concerted action in the improvement of the common lot will remain unobtainable. The great mass of American citizens will elect and support the intellectual élite when they can be shown that the members of this group understand the problems of our time and are equipped to deal with them. It should be the responsibility of the school system so to educate youth that they will be able to recognize men and women with these qualifications. It should be the especial responsibility of institutions of higher education to prepare leaders for these important public services.

[5] *The Mission of the University*, pp. 60-61.

An Experimental Course in Human Relations in Harvard College

BY WALLACE BRETT DONHAM

FOREWORD BY
GEORGE F. F. LOMBARD

THE HARVARD Report on General Education in a Free Society [1] says in part on the subject of human relations:

> . . . We do, however, wish to recommend that a course in the field of "human relations" be carefully considered by the standing committee and, if it appear feasible, be offered as one of those in general education. The need for such a course has been expressed by students and alumni. In many of the answers to the questionnaire sent out to a large body of Radcliffe alumnae last summer the view is expressed that the greatest lack in the general training offered in college is precisely at this point.

In 1944 Professor Donham of the Business School published a critique [2] of colleges and engineering schools as judged not by the training of scholars but by their principal product — the familiar A.B. or S.B. This study and appraisal was based, first, on his experience as a businessman of the problems faced by college men who entered business organizations with which he was connected without further training and, secondly, on his observations and generalizations about men who came to the Harvard Graduate School of Business Administration as holders of the first degree in arts or sciences during the period from 1919 to 1942 when he was dean of the school. As a result of his study, Mr. Donham urged, among other things, that human relations be taught systematically in college. College graduates need more understanding and skills in handling their relations with men around them. Human relations are important not only in business but in family and group life and in any other careers they may enter. With the world in its present disturbed condition, there is surely need for better understanding of methods for securing human collaboration and dealing with human conflict.

Shortly after the adoption by the faculty of Arts and Sciences of the committee's report on *General Education in a Free Society*, Dean (now Provost) Buck, at the suggestion of President Conant, challenged Mr. Donham to demonstrate that instruction in human relations could be given successfully in the undergraduate college and to prepare for the continuity of such instruction if the experiment succeeded. Research in human relations with particular reference to industry was started in the Harvard Graduate School of Business Administration in 1926 under Professor Elton Mayo; instruction began about ten years later. Mr. Donham had followed intimately as a responsible observer the accomplishments of Professor Mayo's group and had long experience working with and getting results through people in business and academic organizations. He felt, however, and immediately stated to Dean Buck, that his knowledge of the research and instruction worked out under the leadership of Dr. Mayo was second

[1] *General Education in a Free Society*, Report of the Harvard Committee (Cambridge: Harvard University Press, 1945), p. 220.

[2] *Education for Responsible Living* (Cambridge: Harvard University Press, 1944), 309 pp.

hand. He was unwilling to take the responsibility suggested unless it was feasible to get the assistance of men on the Business School Faculty who could supplement his own experience with more intimate knowledge of the research and the literature pertinent to the subject and with direct experience in teaching the subject. Such collaboration was, in fact, secured from several members of the Business School faculty, particularly from Professor Mayo, Professor Roethlisberger, and myself.

A three-year experiment with the objectives stated by Dean Buck, was undertaken in the spring of 1945 and classroom work started in the fall. Enrollment has necessarily been limited. One section was given the first year; two the second year; three are proposed for the year 1947-48. No instruction is offered in the summer term. For the present at least, the classes are restricted by intent to a maximum of fifty in each section and by the limitations of the available room to slightly under this number. Students are by design intellectually and socially diversified.

In the first year of the course Mr. Donham and I shared the main teaching load. This year with the expansion to two sections Professor Homans of the department of social relations, who had previously done a considerable amount of work in close collaboration with Professor Mayo's group, has participated in the teaching equally with me. Mr. Donham and Mr. Homans teach one section, Mr. Donham and I the other.

On recommendation of the appropriate committees of the faculty of Arts and Sciences, the course is offered next year in the second or upper group of experimental courses included in the new program of general education in the college and will be open to sophomores in Harvard college and Radcliffe as well as juniors and seniors to whom it has so far been limited.

In the following article Mr. Donham describes the aims, methods, and content of the course and the steps so far taken to comply with Dean Buck's requests.

So strong are the sentiments of juniors for seniors that for a time after Mr. Donham suggested it, I hesitated to write this introductory statement to this article. I have already reported his view that, at the start of our work on this course, his knowledge of the research and instruction of Professor Mayo's group was second hand. I think this feeling was the reason for his request for close collaboration from some of us who have been working intensively in this field. If it was, my position in the group for some years as apprentice and his as dean of the school where the work was carried out gives me a leg, weak at best, to stand on. Only those who have been in the group and worked on the day-to-day development of the course can know the extent to which the group's efforts are the achievement of his skilled leadership. This the group's long association with him had led us to expect; we had not known how often his intellectual understanding of the determinants of action would leave us at the post or guide us to inadequately explored areas in our thinking.

GENERAL OBJECTIVE OF THE EXPERIMENT

When we analyzed the job assigned to us by Dean Buck, that of establishing and providing for growth and continuity of instruction in human relations in Harvard College, we had no doubt about the objective. We would, if we could, establish a course in human relations to help men in their everyday living. We must all live with ourselves, with other individuals, and with or in various groups of people — and the process of learning how is slow and painful. We hope that as a result of organized study and practice students will get to the point where they behave differently — with more and constantly growing understanding skills and sense of responsibility — as they meet people at home, at work, or next Thursday night at the club.

In our assignment the handicaps we struggled under were obvious to us. The research and instructional material immediately available had been developed entirely by the Business School, and all members of the university who had used

the material were located at that school. The school had recognized from the beginning that business problems more often than not turn on the behavior of individuals and groups. But recognition of these facts was not enough. The research that had been done was, at the time the school took up the subject, wholly inadequate to give a start on real understanding of what makes the human animal tick as he goes about his life in business or industry. No one seemed to have an effective starting point. Indeed, in the early 1920's the Business School had almost, but fortunately not quite, decided that a research project directed at securing any real and useful understanding of human interactions as they occur in the give-and-take of life would be a rat hole down which large amounts of time and money would disappear without results. The function of the school seemed to lie in developing what I am tempted to call the "logic" of business, leaving to the student's later experience the task of making these logics work through people in diverse human situations. Fortunately the decision to go ahead with the research was identical with that suggested by the Harvard Committee in its report: "The potential value of such an experiment seems so great that it would be shortsighted to rest content with a recognition of the difficulties involved and to make them the basis for a policy of inaction." The new course required us to broaden the base line so that we no longer had business as a guide to research or to the selection of materials.

THE COURSE ITSELF

Method of instruction:

We decided at once to teach by the case method. The case method is an attempt to provide "knowledge of acquaintance," as William James contrasts it with "knowledge about," by experience with reality through clinical reports. The "case," which takes various forms in graduate studies, had developed at the Business School as a report of facts by a skilled observer, or group of observers. This report is the description of the background and environment, the people and events involved in a particular situation.

The first purpose of our cases is to provide a basis for practice in analyzing these situations. Most of our cases, moreover, present problems of action; and some report action that was in fact taken. A basketball coach, for example, faces the problem of getting better effort from his best player. Part I tells about the college, the team, and its previous seasons; the students diagnose the situation and discuss action possibilities. Then Part II, telling what action the coach did take, is distributed and is criticized by the students.

In the medical schools the case — that is, the patient — has long been an important teaching device. Indeed, Professor L. J. Henderson, who was intimately associated with the human relations work of the Business School during the last years of his life, used to say that what happened to the budding doctor during his hospital internship was perhaps the most remarkable change that can be observed anywhere in our educational system. This period of clinical experience added "intimate, habitual, intuitive familiarity" with the things he met in the clinic to the interne's "systematic knowledge of them and effective way of thinking about them," the foundations of which his classroom and laboratory work had already laid. Also his work under the burden of responsibility emphasized the qualitative nature of the change in the way of thinking that takes place when men of ability are subjected to this type of experience.

But a large part of the patient is not on the cot. The missing parts are his socio-economic existence. We attempt to describe in our cases not only the "patients," but their backgrounds, environment, and relationships one to another. A case, to us, is the nearest we can come to transposing a segment of reality into the classroom. We know from experience that this can be done well enough so that results similar to those seen by Dr. Henderson in a hospital intern can be attained.

If a case is to fulfill its function adequately, it must actually be drawn from reality. Fictional cases are suspect in all except very rare instances.

Almost invariably such cases will consciously or unconsciously be written in such a way as to demonstrate the preconceptions or prejudices, or even the ignorance, of the writer; and will almost inevitably be used in the classroom as illustrations of the teacher's *a priori* "knowledge" rather than as raw material out of which the student himself may seek knowledge and understanding and develop responsible judgment.

The teaching art required is to help the achievement of insight in the students through their own discussion. The initiative is the students'. In other words, the teacher is a discussion leader who seeks to evolve conclusions out of points of view suggested by students with a minimum of guidance by him. If he gives lectures or brief summaries, he does so only when there is confusion and an avid demand for further guidance. The case should never be presented as an illustration of a principle taught didactically. When this approach is used the student gets little training in responsible judgment.

We do not seek large and inclusive principles. We use the case approach as a clinical method, with constant reference back to the facts reported, and with consistent effort to draw out of cases generalizations of a limited nature which were supported by or applicable to the facts. The cases were selected in part to show the borderlines where generalizations were in conflict, what Mr. Lowell called "conflicts of principles." We established several criteria which were applied to the selection of cases. First, we felt that the situation reported in the case must be compact enough so that we could come somewhere near describing the total situation as it came to the participants. Secondly, we decided that the limitations on our capacity to find facts and to describe and report cases excluded any effort to turn great social, national, or international problems into cases. Even if we could describe big situations, students could not think of themselves as responsible actors in dealing with them. Thirdly, by intent and preference we chose cases where the student, out of his past experience, his present environment or the problems he could see immediately ahead of him, could readily think of himself as a participant in the specific human situation.

We are watchful to see whether students think these small problems insignificant. From time to time we orally compare some large situation with our more fully described small cases. We have also used one complicated case where we could get enough facts to give a fairly detailed description. No effort is made to carry the analysis of large situations to a full diagnosis of what is going on. We tried, however, to make students realize, for example, that Secretary Marshall on his recent trip to Russia faced the same necessity they themselves are meeting in the simpler cases ordinarily used; that he must understand not only the logical implications of facts as they concern people with whom he deals and as they concern us for whom he is acting but also the prejudices, sentiments, and emotions which enter into his complex problems — his and our own as well as theirs. In other words, in perhaps the most important negotiations going on in the world, the same kinds of human problems that we meet in practical living show up in critical form. We have little difficulty in getting students to realize these things, and meet few, if any, reactions from students that might perhaps have been expected. Indeed, the reverse is normally true. Students soon come to realize how difficult the apparently simple situations are.

Few, if any, undergraduate courses in the college were taught by the case method. We had grave doubts whether we could in one short course attain student initiative and participation in case discussion to the extent that it is attained in professional schools. Our relief was great when, after preliminary exposition of the way we proposed to conduct the course, nearly all the opening class — 34 out of 37 — took part voluntarily in the discussion of the first case given. We soon realized that we could go into class confident of interest and of spontaneous discussion.

Organization of material — diagnosis and action:

The main objective in the first term of the course is to emphasize methods of securing under-

standing of human situations through diagnosis of the cases presented. Action — what you are going to do about the situation in the light of the insight and understanding you have attained by your diagnosis — is left for a later stage of the course. The reason is obvious. In our customary behavior toward human beings in group situations, all of us sometimes, and many of us at most times, do things without stopping to think. We act in ways that change the situation without conscious effort to make a general appraisal of (1) our relations to the group, (2) the relations of people in the group to each other, and (3) the over-all situation — the interdependence of social, emotional, material, technological, and biological facts. A change introduced at one point will have ramifications in all aspects of the situation. Many times we act as if we alone and our attitudes only were concerned. By emphasizing the diagnostic aspect of human relations for half a year and by carefully discussing a considerable variety of methods which are available when we seek understanding and insight into human situations, we hope to minimize this tendency to act without sufficient consideration.

It is hard to get understanding of even comparatively simple human situations. Diagnosis is almost always both important and difficult. Intellectual understanding of a variety of useful methods by which insight may be sought is not enough. It is not easy to select and make effective use of appropriate methods which give insight into numerous forces affecting the behavior of people in different types of situations. Here, as in learning to drive an automobile, we must convert intellectual understanding into habits and skills. Learning what to look for is slow business. The forces at work in human situations are partly material or logical and partly difficulties arising from words and their customary use. Always many are nonlogical and emotional. We try to make students realize for themselves not only the importance and value of sentiments and emotions but the extent to which these factors control behavior in spite of logics. We try to get them to understand that sentiments and emotions can rarely be ignored either in situations which the students face directly in relations with others around them or in the larger situations that are rarely brought into the classroom because of the complexity of the facts and the difficulty of detailed description.

Emotions and sentiments do not lend themselves readily to verbal description or to logical treatment. Arguments about feelings can rarely be effective, though feelings underlie numerous arguments. We hope to minimize the naïve acceptance of words in their literal meaning, and to this end we ask constantly why particular words were chosen. Often it is possible to carry discussions into the things behind words, and to comprehend the attitudes that caused the words to be used. This is a difficult task because of the indiscriminate use of words which mean different things to different people, and the inherent limitations on language as a mode of communication. So we run into semantics.

Always in the second half-year, the "action" section, one aim is to indicate changes in methods of dealing with human situations which are inherent and necessary when the diagnosis is complete and we must determine what to do and do it. When a decision must be made among alternative modes of action, the methods used in securing insight usually do not apply. At the action level, choice must be made of the kind of action which is to be taken and of individuals or groups who are so located and have such a position in the formal or informal organization of any group, either that their cooperation must be obtained or that their cooperation will carry with it the support of others. Here both authority and leadership are often involved. Often things must be sought which for some reason or other are of strategic importance, in the sense that successful handling of them may reasonably be expected to have widespread favorable effects on the total situation. There is plenty of evidence to demonstrate that many people acquire out of long experience and long practice a high degree of skill both in understanding and influencing other people. For most

people this is a slow process. We believe it can be shortened by education.

In this respect we share the objective of every professional school. We try to quicken the process of understanding experience and to prepare students for practice at constantly higher levels. No professional school carries its brief period of organized instruction to the point where any student can attain the maximum skills of which he is capable. On the other hand, any institution engaged in professional training is committed to this thesis, that students through training can get a substantial basis for intellectual understanding of the chosen field and make a quicker start toward acquiring the skills which can only be fully developed by continued practice. When men are on their own, professional experience means more to them because of their training. The early understanding and the beginning of skills acquired in school are effective only in the sense that in the early period of practice young men can interpret their experience with more speed and effectiveness than they could without the orderly instruction and practice given in their professional training. All these statements are pertinent to the objectives of this course.

Readings:

There is a large amount of scattered literature in the field of human relations at the clinical level. The connecting link in all our reading is that it was chosen from the works of men who were working on and reacting to concrete facts. The readings therefore served through the year to provide a continuing thread tying together important concepts developed out of class discussion. They also, particularly in the second half-year, presented a wider range of clinical material than could be presented or covered in class.

As this problem developed, Professor Lombard, who had charge of this aspect of the course, realized that a guide to the literature was essential; that no mere listing of titles would serve the necessary purpose. Without such a guide, a combination of excerpts from physiology, psychology, history, literature, India, China, the Trobriand Islands, the modern factory, war experiences, and a variety of other material could produce nothing but mental indigestion. Yet we were all convinced that out of this literature a useful (we make no further claim) way of looking at human events, which include groups of people and action that cuts across specialized approaches to knowledge and understanding, could be attained. Professor Lombard prepared, therefore, and we issued in booklet form analytical "Notes on the Reading Assignments for Human Relations." It is to be revised and reissued this summer. In practice it is obvious that students find the use of this analytical reading list a real aid to integration. We all, including Professor Lombard, agree, however, that the real integration of the training in the course comes more from classroom discussion of the cases in relation to the reading than from the reading alone. The reading list is not designed to stand by itself and in our judgment cannot stand by itself.

Reports:

Each student is required to write two reports in each half-year. In each half-year one report involves the analysis of a case similar to those used in the classroom. This case and its analysis are at a level appropriate to the stage of development of the student. In the preparation of this type of report, the same case is assigned to all, and group discussion is encouraged. In the writing of the report students are expected, of course, to be on their own. The other report assigned in each half-year requires each student to describe some personal experience in human relations and to appraise it. In the nature of things the personal experience reports must be independent pieces of work.

First half-year reports emphasize diagnosis. In the second half-year, diagnosis is required but it is followed by a critical appraisal either of the action actually taken or of action suggested as the next step.

Students are asked to discuss their personal experience reports with members of the teaching staff before writing them. The subject matter of these reports is of course kept confidential. In practice the range of topics discussed in these personal conferences extends beyond the particular

case. They bring out spontaneously difficulties which individual students feel about the classroom work and the reading, and often the individual preoccupations of students about difficulties they are facing. The whole series of conferences serve to give the staff a better understanding of the students as individuals.

RESEARCH

Much of the case research for teaching purposes, directed toward problems met in their daily lives by ordinary people, individually and in groups, has been done under Professor Mayo's direction and inspiration. Such research is clinical in its approach both to diagnosis — the acquisition of understanding and insight — and to action — what to do in the situation in the light of understanding so gained. As we prepared the course for the college, our first research problem was to get nonbusiness cases — cases on families, veterans, colleges, hospitals, community funds, and the like — for our previous case research had been for Business School courses.

Our ultimate objective, however, even in the collection of teaching cases is more broadly conceived to increase our effective understanding in the whole field. When we are emphasizing teaching material, our objectives differ from those of the Business School because of the necessity for a wider orientation. When we are emphasizing the broader aspects of the research, our objectives are essentially identical with those of the continuing program at the Business School. In both sets of objectives there is great value in conducting the research by the collection of case material.

These things have been obvious from the beginning of our research for the course. As a result, there has been a close correlation between the past and present efforts of the Business School and our efforts to collect cases for teaching. Close collaboration has been important. The extent to which the research program can be developed further both in the Business School and for the college course will depend, as is so generally the case, on the extent to which we have the resources including the manpower to do such research. It is a slow job to train research personnel in this field.

GROWTH AND CONTINUITY

What I have already described has related chiefly to the establishment of the course and the problems we encountered in so doing. Dean Buck's assignment had a second objective — to provide for growth and continuity. The sane development of the course with this objective in mind involved the addition and training of personnel for teaching and continued research in the field. While we are sure we already have useful ways of looking at human situations, we are thoroughly aware of the fact that the subject has been neglected. We face, therefore, two collateral problems arising out of Dean Buck's request, and indeed out of the needs of the Business School where, at about the same time we received Dean Buck's request, the faculty decided to develop a new course called Administrative Practices, to be required of all students. Its purpose was to blend the point of view of the research already done in human relations with the point of view of a business administrator. It is only through organized research and trained personnel that we can hope to continue the development of the subject matter along effective lines. We cannot broaden our grasp of human problems without basic research. We also faced a shortage of trained manpower. There are few places in the American academic structure where teachers are trained for the type of instruction which we are offering.

It was clear to us that, as in other fields, no one can be really equipped to give instruction at the college level if he has not done advanced work in the field. For our own purposes, therefore, we developed two informal seminars designed to build up our available supply of personnel, both for teaching and for research. This program came to the early attention of three men who were formerly assistant deans and on the faculty of the Business School. They were therefore familiar with the case method as we proposed to use it and with the research and instruction in human relations in the

school. All three are now either presidents or chancellors of other universities. They asked if we were willing to admit professors from their universities to these seminars and to give opportunities to these men out of the college course as well as through other Business School courses to train themselves with the objective of going back to their several universities and instituting instruction in human relations by the case system. We agreed to do this but had to limit each year's group (*a*) to the number of men that we could handle effectively, (*b*) to experienced and influential teachers picked out by the administrative heads of the universities, and (*c*) to individuals so selected who were anxious to come. To simplify the financial arrangements necessary in these other universities, we secured the funds sufficient to offer modest fellowships to the teachers selected. In every case the university in question made some financial adjustment with the teachers who were sent here. Four men from other universities have been with us in each of the two years that the course has been offered. As a result of last year's work, three courses similar to ours are being conducted successfully in other universities and other undergraduate courses are being taught on the case system.

The problems of training men for research and teaching were essentially the same whether we were engaged in preparing more members of our own staff to participate in the college course or more men to teach human relations in the Business School (where the establishment of this proposed college course would intensify a shortage of manpower already apparent), or training fellows from other universities to go back to their own institutions. An outline of the program which we have worked out is indicated below.

A. A seminar is offered by Professor Mayo. This is open only by invitation. It is in the nature of advanced work in human relations, going back into the research and the literature of the subject and critically appraising the development of some of the more important concepts in many fields which deal with human behavior. From my personal experience last year and this, I can testify that this seminar is a rare experience. Professor Mayo is leaving at the end of 1946-47, and the seminar will be offered next year by Professor Roethlisberger.

B. A seminar offered by me with three sessions a week. Two sessions are pedagogical. The subject matter discussed is in preparation for the undergraduate course in human relations. The visitors from other universities regularly attend the undergraduate course as observers and critics but not as participants in the discussion.

The third session is restricted to the visitors from other universities. It ranges over any topic which they wish to initiate, whether it be connected with human relations work in their own universities, the case system of instruction, or the whole topic of general education.

C. For the purpose of observing the variety of methods by which cases are handled by different professors, the men sample other courses in the Business School taught by the case system, with especial attention to work in human relations, such as Administrative Practices.

D. Field work, an opportunity to get first-hand experience in gathering cases, is planned to give the visitors clinical experience in the research methods appropriate to individual and group situations involving action. The visiting professors, who put in only an old-fashioned academic year of work with us from October to June, have had too limited time for intensive field work, but each has done some. When cases are written, they are presented for criticism to Professor Lombard and others who are in charge of our case gathering.

Obviously, such a program as that outlined above can be opened to only a very limited number of visitors each year. This fact accounts for the informality of our procedures and for the severe restrictions which we have placed on entrance to the group.

HUMAN RELATIONS AND GENERAL EDUCATION

I have discussed the experimental course and preparation for its expansion, its methods, some-

thing of its content, and the program of instruction at an advanced level which the facts have forced on us. We are not satisfied. Rather we are filled with discontent. It is constructive discontent and we are making progress toward our objectives. But to quote the Harvard Report:

> The difficulty of the task is almost as great as the importance of the problem. There is relatively little material suitable for undergraduate instruction now available. It is certain that a course of this kind, if it is given at all, should be given on an experimental basis over a number of years and to a class of limited numbers. But the potential value of such an experiment seems so great that it would be short-sighted to rest content with a recognition of the difficulties involved and to make them the basis for a policy of inaction.[3]

Instruction in human relations is, I think, an essential part of any program of general education. Indeed, the subject deals with the aspect of human knowledge and experience which is most widespread in its implications. It is critically important in connection with the clash between the mechanistic successes which have come out of science and the confused social situation which is our basic problem. All our civic and private leaders and, indeed, all of us must struggle constantly with human interactions. Human relations are, for all of us, functionally related to the purposeful activities of life. We must give men training that fits them for the constant struggle with concrete but novel problems which it presents — that is, for everyday living. Curiously, the behavior of ordinary men as they go about the business of life individually and in social groups still lacks the systematic attention, both from men of affairs and from universities and colleges, which is, I believe, essential to the preservation of western democracy.

[3] *General Education in a Free Society*, p. 220.

The Lawyer's Education

Washington, D. C.
April 28, 1947

DEAR EARL:

You have asked me for an article on the subject of legal education. In particular the topics which you wish to have covered or at least accented are the old questions of whether a law school is not and should not be a craft school rather than a graduate school of higher education, and whether it is not wasteful to precede it with four years of training in the liberal arts. I gather from what you say that there is an eagerness, especially marked at this time, among men aiming at the law to be into the profession at once and not dally any longer than necessary with general courses. I gather also that you sense a more marked demand than in normal times for education to be as practical as possible. I suppose that with a large proportion of the students having had their careers interrupted by service in the armed forces, one might expect an accentuated feeling on the part of the student body that they did not want to trifle too long with the preparations, but wanted to pick up the equipment as speedily as possible and get at the business of life.

On all hands I am told that never has there been a more eager and rewarding group of students than are now in the law schools. I should be bound to feel their collective judgment impressive, if your questions impliedly represented their collective judgment. But I should like to wager a good deal that all they ask is that the course proposed be a serious, solid, and directed affair. Even the most critical students are inevitably trustful and remarkably agreeable to whatever course the faculty sets as the way for them to follow in equipping themselves for a career. I, at least, have never known an instance where a faculty had seriously to debate with a student body what measures of education they would adopt, and many student bodies have lent themselves as willing guinea pigs to fantastic experiments. The administration and faculties of universities are going to decide these questions you put. In my judgment it is their wisdom that needs to be cultivated and not the demands of student bodies that need to be mollified.

To begin with, I do not feel that our legal education in this country over the past fifty years has been such a poor thing that I can write either a startling exposé of its deficiencies or novel suggestions for its betterment. To speak, without meaning to be invidious, of a school which I know from having tried it and whose graduates I have watched at close range performing in the practical business of the law in most of its aspects for nearly twenty years, I think the Harvard Law School has been a great educational institution. It undoubtedly had a golden age in the time of Langdell and Ames, Gray and Thayer. It developed, in my judgment, new techniques of legal education which have lasting validity. It has maintained a very high standard since, and I suspect it now has a faculty which if it can be held together for ten years will give it another golden age in legal education.

There is no substitute in method for a great faculty and a great student body. Whoever can cluster these about him will have a great school, and its methods are not likely to range far off from those appropriate to their times. This does not mean, however, that I feel the proper subject matter and method of legal education unworthy of discussion, that it will take care of itself. I do feel that a really talented faculty responding to a

talented student body will find the good ways if they have a fair chance. The worst dangers for education in my judgment are the dangers of sought-after novelty. Some form of caricature is the easiest source of publicity, and publicity is the readiest means of personal advancement. This is no peculiarity of the educational world. It is less virulent there than elsewhere. But even in the educational world men often seek novelty because it gives them name and not because that is the best way of getting a job done.

I am an Aristotelian in the matter of education, legal or otherwise. I believe in the very simple, very profound terms of the Nicomachean ethics: "What we have to make when we have learned how, these we learn how to make by making: men come to be builders, for instance, by building; harp players by playing on the harp; exactly so" — *by practicing law we become lawyers.*

This however does not lead me to the conclusion that by thoroughly masticating a hundred great books one can become a great lawyer; nor do I conclude from it that law schools should spend their time simulating court room scenes, congressional committee hearings, or the negotiations of settlements for large amounts. It does imply, and I do believe that there is a close affinity between the ways of sound craft training and sound higher education. I do not know what the purpose of higher education may be if not to aid men to live greatly in their chosen careers.

One becomes a lawyer by practicing law. But it does not mean that to become a lawyer one needs to recapitulate the whole history of the race of lawyers with all their fumblings, all their blind alleys, all their mistakes. Nor does it mean that legal education should be a little replica of the life of a practicing lawyer. Sometime one must learn how to walk to the clerk's office, induce him to help you pull out the right form to use in petitioning for the probate of a will, even help you to fill it out. Sometime one must learn how to pick a jury, how to examine a witness, and how not to cross-examine one. Sometime one must learn to guess with reasonable accuracy when the man across the table is bluffing, how far he will retreat and what is his sticking point. Sometime one must learn how to press hard an argument that a court is reluctant to receive without seeming disrespectful or irritating by one's insistence. But in my judgment these things are not for the law school years. Three years is a short time if one takes merely the law school years. Seven years is a short time if one takes before it the four years of a full college course. No one pretends that a capable lawyer can be made in any such period. However it is done, there will be years of learning to follow. The question is, what can be best learned in those three years or seven years at the university.

Assuming that one becomes a lawyer by practicing law, that still leaves for the educator two queries: What is the content of practicing law, and what are universities better fitted than law offices to provide in the way of practice? Putting the second query in the more usual terms, of the things that finally have to be learned by a competent lawyer, which are more teachable in the universities, and which are more teachable in the law offices and the courts? There is also a correlative question: What is foundation learning and what is superstructure learning in the field of law? In a sense, the adjectives "foundation" and "superstructure" beg some important questions. In a sense almost any bit of learning in a field will make it easier to add new learning. However, some kinds of things are more readily acquired at certain stages than at others and some kinds of learning have more magnetic quality than others to cluster added learning about them. I am convinced that there is no absolutely good order of learning and that the relatively good order for one person is not the relatively good order for another. But allowing for all this, I think that there are general progressions of some validity.

I am sure that there can be endless controversy about what is the content of practicing law and probably equally endless controversy about what had best come first and what later in teaching the practice of law. I would like if I could to avoid the areas of subtle debate and confine my discus-

sion to very obvious things, but I am sure many will say that they are far from obvious.

Three years is a very short time and needs to be managed with constant recognition of that fact. I think the best story I know to give concreteness to the kind of wisdom about the stringent limits of man's life and capacity, which Brandeis never tired of preaching, is the story of Jackson at New Orleans and his advice to his brigades who were doing some rather wild shooting. "Raise them sights just a little lower," he is supposed to have shouted to his men.

Before one can start to deal with the law, as we practice it in this country, one has to be familiar with a rather simple, logical technique, the technique of determining the result which should be arrived at in a new case by reference to the results reached in decided cases. The process is one of segregating and denominating the elements of two or more fact situations and of emphasizing the common or uncommon elements and asserting that the result should be alike or different because of the prevalence of the common elements or the prevalence of the uncommon elements. It is far from being the subtlest logical process that man has conceived. It takes very little time to describe it, but it is not enough that a lawyer should be capable of describing it. He must be able to use it with proficiency. To become skilled in its use requires endless repetition of the process, repetition to a point where one's mind is so grooved with the pattern that he moves in it as if there were something inevitable about the results. Two of the ablest judges I have encountered on the bench would often question one in the course of argument as if the premises of a case were not to be escaped and the conclusions must of necessity follow. Both of them, I am certain, were as conscious of the limitations of this logic as anyone could be, but they were so skilled in it themselves and it was such a part of them that in the course of argument they naturally slipped into a state of mind which assumed that there was something absolutely compelling about it.

This process has to be learned before one can move at all in the practice of law whether in drafting papers or giving opinions or litigating cases. I do not mean that one necessarily has to be highly skilled in it to be a good jury lawyer or successful negotiator, though I think for both purposes it is unwise to underestimate its importance. But one has to have some grounding in it to move at all in our profession. I am a little distant from the life of law schools. I do not know what controversies rage now, but I suppose there must still be a lot of talk to the effect that the analogies from other cases are not the things that persuade judges. To begin with, I think this is not true. They are not the only things that weigh in in persuading judges, but they have a great deal to do with persuading. Certainly I should not argue that other considerations and other motives may not intervene. The division of the Supreme Court in the Lewis case, or the portal-to-portal cases, to cite two well-known current examples demonstrates that there is nothing inevitable about the logic of the cases, and I think demonstrates that other considerations play a large rôle. There is nothing shabby or improper about the other considerations that weigh in, but just try sometime to make a naked appeal to those considerations and see how promptly you are in difficulties with the court. One must make his argument at least formally in terms of this logic of analogy to decided cases. There are other lines of argument that may be drawn on but certainly this is fundamental. Moreover, to do it well one must have acquired such ease in it that he can use it without having all the steps show, as a skilled tennis player drives a ball. One must not be able to note of him that now he has his eye on the ball, now he has gotten his feet properly placed, now he has made the right distribution of his weight, etc.

A New York office, which I would guess did as thorough and careful research as was done anywhere, used to write some of the least convincing briefs because they could never really disentangle themselves from their research. In short, this process of arguing by analogy from decided cases must become close to second nature to be managed

effectively. One must be able to play it thoughtlessly in order to reach a point where it is possible to concentrate on the highlights of an argument. I know no way of teaching it comparable to the case method. A normally intelligent person can understand the process from a half hour's explanation, but in my judgment at least two years of concentrated case method training in law school is necessary for a basic start in handling it skillfully. A few years back it was fashionable to criticize the case method, but I have seen nothing better offered as a developer of this technique. The principal deficiency of the case method is that it is an almost irresistible temptation to laziness on the part of faculty members. One of my associates, who has a tart tongue, tells of its use in a school where it was rather scorned, by a professor who had no inconsiderable vogue. He would come to class, slouch into his chair, open the book to the next case, and say, "Well, Van Dusen, what about it?" I suppose even from that limited prompting Van Dusen might learn to argue by analogy from other cases, but there are more skilled and serious ways of indoctrinating him. Discounting the fact that when one is twenty he can still see giants striding the world, nevertheless, I do still believe that anyone who saw the case method used by Samuel Williston will agree that a lifetime can be given to its high cultivation as a means of pedagogy and that in the hands of a master it is a rare instrument of instruction.

There is a second technique that one must learn to practice law and in modern practice it has become of ever-increasing importance; the technique of statutory construction, excluding reliance upon decided cases. The logic of it is more complicated and when I was watching with some care the attempts to instruct in it, no adequate instruments comparable to the casebook had been devised to teach this technique. But I think the next few years are likely to see such instruments devised. The faculties of the law schools are full of men now who have had the most intimate acquaintance with the practical use of this technique. Many of them are highly talented and thoroughly conscious of their own processes, and I am confident that they will find simple, cogent ways of imparting this kind of learning. I shall not attempt to analyze the process extensively. Some elements of it are fairly obvious and readily described. One looks for the mooted word or phrase in some other context of the statute where its meaning is accepted or is more clearly evident from the context. Assuming that the same draftsman would use the same word or phrase with identical meaning when repeated, one draws the obvious conclusion. One assumes that a draftsman will not be wholly redundant and concludes therefore that what might appear a repetitious provision must have broader or more particular scope than the initial statement. One assumes that the particular authorization or command must be relevant to the general purpose either as derived from a stated policy of the act or the revelations of the legislative history as to the evils to be corrected, and concludes therefore that the meaning consistent, rather than inconsistent, with that policy was intended. One looks to what those who managed the legislation had to say about what they intended.

If this learning in statutory construction is piled on top of the case training, I should think it would leave little time for anything else. But the training in these techniques can be combined with the acquisition of certain organized bodies of knowledge. Williston believed that it was his job to deliver an organized body of knowledge as well as a technique, and he pressed on to the doing of it, and I think accomplished it. Perhaps it can be done more speedily by straight lecture work, but certainly his pedagogy was admirably suited to the combined development of knowledge and the use of knowledge. I am still to be shown that there is a better way for the first two years of law school.

But however it is done, these things it seems to me need to be accomplished in law school and will not be accomplished except in rare instances after law school. To sit down and deliberately digest a complete field of the law while one is in the midst

of practice is a task that I wager few set themselves successfully.

The technique of argument from the analogy of other cases and the technique of statutory construction are undoubtedly developed further in law office practice. However, my own observations are that while the run of the mill product of a good law school is generally competent in the use of these techniques, it is rare today for a man who had not had good basic law school training to develop any high degree of skill in them. Of course one can name exceptions, but by and large men fumble badly who have not had a rigorous training in the use of cases and of legislative and administrative materials in law school. The reason, I think, is that the repetition necessary to skill is such an exacting and tiresome process that few will submit themselves to it without the aid of group discipline and the staying power which is imparted by the knowledge that one's own boredom is widely and commonly shared.

The foregoing is in my judgment the proper basic content of law school training. It would be good if possible to add to it substantial experience in original research and independent writing. No one can gainsay in my judgment the real advantage of law review work at the best law schools. It is available only to limited numbers. Numerous attempts have been made to duplicate its advantages for the general student body. Writing at least one original paper has become almost standard practice in the third year, I believe. I doubt very seriously that this is any adequate substitute. I doubt that without immensely expanded faculties, expanded to a point where a genuine tutorial system is feasible, that any adequate job of training can be done in original research and writing. I would guess that solid training of this character had to come before and after law school, though I do not mean to deny the value of even one or two substantial experiences in original research and writing in the law school. But repetition and repetition of performance against a genuine and serious test of adequacy is of the essence in the development of any real skill. It seems to me that the law schools have not and are not likely to acquire the necessary manpower to provide these genuine, serious tests of adequacy for repeated, independent research and independent writing, except for the handful of men who can conduct a law review as a serious personal venture. When the law review becomes a faculty enterprise, participated in by the whole student body it is very little different in its training from the paper written in a course.

I have outlined what it seems to me is the proper content of a law school course — call it as you will craft training or higher education. What is there to practicing law which is not developed by such a course? And what of those remaining elements are best developed before and what after the law school?

Again I shall make no attempt at being comprehensive. I will limit myself to a few things which to me at least seem obvious.

Superimposed on these techniques which I have described or, perhaps better, operating through and above that more or less formal pattern, the lawyer's work is first concerned with persuading others by either oral or written argument. It is concerned with exact written statement, whether it be a contract, or will, or registration statement, or trust indenture. And it is concerned with learning other people's businesses, for at least some purposes, better than they know them themselves. In short, an accomplished lawyer must at some time learn how to learn, learn how to read, how to write, how to speak. Are these the jobs of a law school or a law office? Often certainly they are postponed until those latter days in a man's education, but in my judgment it is a great waste if they are and it is much less likely that proficiency will be acquired in them at the later day than it would have been at an earlier day.

Learning to learn, learning to read, write, and speak — these require much more tedious, much more long-term repetition than do even the techniques which it seems to me are the fit matter for law school.

Learning how to learn is of first importance to

a lawyer. Anyone who has had a reasonably varied practice will, I am sure, testify to the fact that he has had to pick up fast and, at least for the time, genuinely and comprehensively the most diverse fields of knowledge. He has had to learn how a building is constructed, or how an airplane is made. He has had to acquire the basic knowledge of an engineer in some aspects of the engineering field, or he has had to learn the fundamentals of electronics. He has had to learn accounting or banking. He has had to learn the fundamental problems of the railroad industry or how welding is done and whether a particular factory can sustain its claim of being much more efficient than the run of factories in the production of welding equipment.

Learning how to learn involves, I think, primarily two things: First, if one has some general context, the acquisition of particular knowledge is a much easier task. This is one of the prime values of a general education to a lawyer. Second, there are techniques of learning. To begin with one must have some general confidence that he is capable of it. And there is nothing like having had at least some basic courses in science, let us say, to give one confidence that it is possible to acquire knowledge of a particular field of science. But beyond this there are techniques and paths of inquiry which if known permit one to develop speedily exact information and comprehensive information. The Socratic Dialogues are concerned primarily with learning how to learn, and they represent a high development of one of the great techniques. There are likewise good and bad paths of inquiry through books. There are good and bad paths of inquiry through observation and experiment. To learn how to direct inquiries is certainly half the job of a good general education, and to know how to direct inquiries is half the job of a competent lawyer.

The head of one of the great universities has recently discovered that few of us know how to read. And indeed it is true. When he says we do not know how to read, he means that few of us have learned the painstaking, exacting digestion of every word and syllable of an important writing.

It is unbelievable how many lawyers can read a statute or a regulation and not know what it says. The requirements of attention, of concentrated effort in really chewing over and digesting words and phrases, sentences and the sequences of sentences is something that few bother to learn. The man who is noted for being able to turn the pages of a book and know everything that is in it, usually knows little that is in it. At the same time, the man who reads moving his lips, tasting every word can rarely cover much ground. The pendulum is forever swinging from one side to the other. Now it appears to be the vogue in elementary schools that one should not read words but read only for meaning. That is a good technique for reading newspapers but hardly statutes. But the technique that is good for statutes is not adequate for the purpose of consuming the vast quantity of information which is equally a lawyer's task. The contribution of a good, general education to learning how to read ought to be a great contribution. By the time one enters college it should be possible to begin consciously to differentiate the requirements of reading for different purposes. And a thorough, leisurely course of study in history and philosophy, mathematics and the physical sciences, literature and languages should bring one experience in and real comprehension of the requirements of reading which seem never to have been better put than in Bacon's Essay on Studies, "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested."

Speaking and writing are learned, it seems to me, largely by mimicry, and the earlier acquired the more likely to be well acquired. But I know of no deficiencies which law school professors feel so desperately as the deficiencies of students in these regards. Adequate capacity in these fields are essential to lawyers. If our time were one of good general style in speaking and writing, one might need to be less concerned about a college education preceding the law school. But the general style of our time is certainly not good. The

home is not to be relied upon for it. To a degree that is a measure of our good fortune. Many well-educated men develop out of uneducated homes. So there is need for some artificial environment in which this mimicry can be stimulated and where good models will be available to mimic. And it is a slow process. Both writing and speaking are artifacts. They have to be fashioned as artifacts and made to seem natural. During the time I was in college there was scorn for spread-eagle oratory. A conversational style was thought the desirable style and most assumed that that came naturally. But whatever may be the best style it does not come naturally. Whether in speaking or writing, a good style comes from imitating good models, from endless repetition and criticism and most happily if it is available, good instruction. There is need in my judgment for a leisurely period of education between secondary school and graduate school to gain the basic foundations of these skills. It is argued and with some reasonable basis that one can learn these things in a law school as well as in a college, and much advantage would be gained by adding a year or two to the law school time. I firmly believe that a different pace, a more varied subject matter, and much more availability of the teacher is needed for these things than is to be expected from the law schools.

But finally a lawyer is a citizen as well as a craftsman. His rôle as a leading citizen has always been a marked one in our society. His great contributions as a citizen are likely to be made only if he has a kind of detachment which ought to be one of the products of a good liberal arts education. I would not go so far as to say that to know the good is to do the good, but it is a great help in that direction. The emphasis of law schools, the emphasis of the first years of practice inevitably focus on a successful career. I do not mean to underrate the great contributions of law school education to an appropriate feeling about the obligations of the profession. But learning about one's self, about the basic elements of one's own happiness, learning some capacity of detachment from one's own personal ambitions, at least the foundations of that learning ought to come earlier; it ought to come much, much earlier. But it ought to be developed on a conscious and philosophical level before one enters intensively on a career. I do not speak of the detachment of dreamers, or of men sheltered from life. I speak of the kind of detachment which made it possible for a great, active lawyer like Henry L. Stimson never to fail to find the time to try to see where our country ought to be going and to try to do something about it.

Sincerely yours,

FRANCIS M. SHEA

Some Postulates of General Education

BY CHARLES LEONARD STONE

THE UPHEAVAL brought about by the war, whatever its devastations in other respects, has at least compelled a re-examination of the nature and purposes of education. This consideration is imperative, because college courses have been proliferating in all directions, utterly without relation to any central or common objective. This monstrosity of propagation accounts in some degree for the current movement for general education, and in considerable degree for the patterns of more extensive core requirements in newly revised curricula.

It would be both bad educational policy and bad administration to emphasize those courses which serve the accepted educational philosophy or need and to allow the other courses to wither and rot. Rather, the colleges should define their desired objectives, and urge faculty members to discontinue or modify courses inconsistent with these objectives. The only effective curricular revisions are those made in concert.

Definition of objectives and revision of curricula are most necessary in the liberal arts college for two main reasons: the liberal arts college more than other educational institutions has become confused about its meaning and function; and the liberal arts college more than other educational institutions has the traditional responsibility and the pre-eminent opportunity for recognizing the worth and fostering the development of the individual human being as human being. This article, therefore, concerns directly only the liberal arts college.

If it is possible to generalize about why mankind is in its present plight, why two billion individuals of diverse cultures, interests, and potentialities are suffering a common economic, political, and moral confusion, this statement would seem to be a true and basic generalization: Throughout the world we have failed pathetically to recognize the worth and to foster the development of the individual human being as human being — which is to say that throughout the world education, both formal and informal, has failed to meet its primary obligation to society. This obligation is fundamental to all postulates of education.

The initial postulate of general education grows out of the fundamental thesis just stated, that education should serve the purposes of society. Scholarly pursuits may well have their intrinsic delights; but selfishly to seek these delights in some ivory tower, when mankind is in turmoil and needs all our social intelligence and scholarly energy, would seem a crass and indefensible instance of moral obtuseness, if not cowardice. It would be like the Roman Emperor fiddling while Rome burns. Let us in these times give no encouragement to schizophrenic scholarship. The antithesis of ivory tower preoccupation is not necessarily, however, professional or vocational education. In fact, the pressing need socially is for a fuller knowledge of the nature of man; and I should define education serviceable to society to mean whatever education makes us more perceptive of human beings, more concerned about them, and able more richly to contribute to human amelioration, growth, and happiness. In scholarship, as in politics, we have not only rights, but

also responsibilities. There is little hope for the world unless education emphasizes these responsibilities. Talk about discipline in education is no longer meaningful unless by discipline we mean the readiness to recognize our obligations to our fellow men, the readiness to undertake our full share of the world's tasks.

At Dartmouth College President Dickey, whose sense of the world's needs had been sharpened by his service in the State Department, has been largely instrumental in instituting a course for all seniors, entitled Great Issues. In time we hope that the character and inspiration of this course will permeate the entire curriculum, and in a sense make all courses courses in great issues, courses in matters of tantamount concern to human beings — not only matters scientific, economic, and political, but quite as much matters moral and aesthetic. This would indeed be education serving the purposes of society, general education at its best.

The second postulate is closely related to the first, that education should be concerned with the whole human being, not only vocational or other segments of his life. It is probably neither possible nor desirable that vocational courses and vocational considerations should be completely excluded from education in the liberal arts college. At present, at least, such exclusion would entail real hardship for the premedical student (who surely ought to have some of the benefits of the liberal arts college) and would offer serious difficulties for men anticipating several other careers. What the liberal arts faculties should not forget, however — and what all professional school faculties should, if possible, learn — is that fundamental to the good doctor, the good lawyer, the good engineer, the good teacher, is the good human being. Fortunately many graduate school faculties have recognized that the inadequacies of the professions in the past and in the present have been attributable not so much to the lack of technological knowledge as to the lack of human understanding. Recent revisions in engineering curricula have reduced the professional courses and in their stead have strengthened the cultural foundation. Other professional curricula need the same broad foundation. As human understanding grows, professional progress becomes more certain. Psychosomatic medicine is constantly revealing the personal factors which underlie human ills. Crime is more a matter of personality than of law. Motivation is the key to education. More than ever before, the doctor, the lawyer, the jurist, the teacher are concerned with total beings and must have broad human understanding. No longer is it enough to study merely anatomy and physiology, law, or mechanical principles of learning. The whole child goes to school, not an educational segment; the whole artisan goes to work, not a manual segment; the whole man marries, not a sentimental segment; the whole creature becomes ill, not a few organs. The problems of the teacher, of the employer, of the wife, and of the doctor are problems concerning entire human beings. Education, therefore, must be broad to make us understand the entire human being, whatever our intended walk in life.

The third postulate is almost another view of the second, that education should be free from the professionalism of the teacher. In his graduate training nearly every faculty member has been required to take a large range of highly professional courses, packed with a mass of detail of little interest to anyone outside that specific profession. The teacher is likely to think of much of that instruction as intrinsic material of his field and to incorporate considerable portions of it in his own assigned readings or lectures. Years of graduate instruction, membership in professional societies, and the reading of professional journals — a powerful accretion of directive influences — make it very difficult for the average instructor to envisage his subject freshly and from the point of view of his students as young men and women learning how to live and how to interpret life. In consequence, it seems to these students as though chemists teach their subject expecting all their students to be chemists, as though psychologists teach their subject expecting all their

students to be psychologists, as though teachers of art expect those sitting under their instruction to be anticipating a career of art. The facts reveal that very few persons pursue even their major subjects in their life careers; and certainly the number in introductory courses who follow the field professionally is minimal indeed. General education — education for living as whole human beings — demands of the instructor the humane and not the professional envisagement of knowledge.

The fourth postulate of general education is the contention that courses should be organized primarily with regard for their function, only secondarily with regard for their content. Certainly no one would argue that content is unimportant in education; but the fact needs fuller and more frequent realization that what is important in learning is important not for what it is intrinsically, but for what it does to the learner. John R. Tunis' study of his classmates twenty-five years after graduation from Harvard may be unduly pessimistic, revealing, as it does, that one-third of his classmates believed that none of the courses they took in college proved of value afterward. If college courses have value, however — and many of us believe they do — the value lies more in inculcating habits and attitudes, in encouraging clear thinking and critical evaluation, and in inspiring great ideals than it does in mere factual retention. Factual examinations are perennial disappointments to teachers. Even after hours of specific study, students show a discouraging ignorance — or, to be playfully euphemistic, they reveal amazing lacunae in their knowledge. If the results at the completion of a course are discouraging to the instructor, what hope has he that his students will carry away from college anything more than vague vestiges of factual remembrance? S. L. Pressey documents our forebodings with these dismal data obtained in college by use of objective tests. Botany students averaged 68 percent at the end of the course, 21 percent a year later, 16 percent two years later; zoology students averaged 78 percent at the end of the course, 39 percent a year later, 30 percent two years later; psychology students averaged 70 percent at the end of the course, 24 percent a year later, and 19 percent two years later. No great imagination is necessary to anticipate the character of the continuing curve in the years after college. Enough of the curve is revealed to convince any rational man that education is an utter failure if it is presented solely as facts and measured solely in such terms.

Is not the real explanation of these data to be found in two realizations, that in general we have little regard for most facts; and that such regard as we have for any facts is established by our discovery that these facts are meaningful to our lives? Those students are indeed shrewd who choose their courses not for the subjects but for the professors. They elect to study under the teachers who have found meaning in their subjects and have learned how to communicate this meaning to their students, thereby enriching their students' lives. Most of us have discovered that dead languages are languages taught by dead teachers; and that Greek and Latin — or any other subjects — when taught by truly inspired teachers give clarity and meaning to human understanding. There can be, and unfortunately are, also dead sciences, dead social studies, and even, paradoxically, dead "humanities." Education is not content; it is function. Content is important as we select it for its relation to the lives of our students, and as we illuminate and vitalize this relation.

It is becoming increasingly evident that the random growth of the college — the promiscuous additions to faculty staff and the haphazard accretions to course offerings — must stop; that faculty members must be chosen and courses accepted and organized for some central and common purpose. The thinking about general education is helping to clarify this purpose and to show means by which the purpose may be realized. The postulates here elaborated are offered as one view toward the eventual recognition that education is not a thing, but a relation to life, and that life is not an accumulation, but a fruition and a service.

*Historismus for the Undergraduate**

BY JOHN T. HORTON

IF A college student with only a casual interest in history were to elect a single course in that subject, what kind of course ought it to be? The query is vain unless made on the assumption that the student's interest, though casual, is as abiding as it would be for any other flame transiently seductive, hence intended for a season of at least semi-serious wooing.

The query is also vain unless it assume a somewhat more sensitive student than he who declared of Wallenstein, "a great general of the Thirty Years' War, who later on was assassinated for looking at the seat of the Holy Roman Emperor." If the student is no more sensitive — or sensible — than to write in that vein, then it would make little difference what kind of course in history he might elect or indeed no difference at all whether he should elect any. Probably he were wiser to forego the business altogether.

Assuming a student moved with genuine interest and endowed with good parts, one may profitably ponder the question; but one would not ponder it very long until another question would obtrude itself upon the mind to the exclusion, at least temporarily, of the first. What is the end which the student has in view — education or vocational training?

If the end is exclusively vocational, he would probably neglect history anyhow or, at the most, elect a course in the history of the vocation he aspires to. For practically any vocation an history could be compiled to instruct the apprentice, to fill him with a certain pride in its mysteries and tradition and to inspire him so to excel as to enable him to discharge the debt every man owes to his calling by contributing in his own turn to the enrichment of its lore.

It is a thought worth considering whether such a course might not transcend the limits of vocational study and expand to the dimensions of the liberal and humane. Suppose, for example, that a master were to teach a course in the history of the business of the undertaker. He could conceivably submerge the gruesome technicalities of the trade in some of those grand and universal themes which impart to a discipline its liberal character. Thus he might take occasion to deal with changing concepts of the hereafter; he might descant upon St. Augustine and his views upon funereal pomp in relation to the burial of Christians; he could draw deductions from the obsession of ancient Egyptians and modern Americans with the care and keeping of corpses. Such a course might explore the bearing which science has upon theology and faith; it would not fail to scrutinize the social psychology which requires that undertakers be called morticians and graveyards memorial parks; it would probe the antiquity of the custom of supplying pallbearers with gloves. Thus the course would be social history, intellectual history, and religious history all in one. If it could not be called liberal despite its voca-

* *Historismus*, that is, the school of historical thought and teaching associated with the name of Leopold von Ranke. *Vide* Meinecke *Die Entstehung des Historismus* to which great work as well as to Ranke's own, the author of the accompanying article freely acknowledges his indebtedness.

tional slant, none could that the wit of curriculum-makers might devise.

That course, nevertheless, would incur so much adverse criticism that ten to one it would not survive a semester. Too liberal to be practical would be the verdict of the vocation itself; while the verdict of any educator would be that it got to its goal too much by indirection. Other and more direct means to the end ought to be preferred just as one would prefer a rifle to a sword cane if one was called upon to slay a bear or a common pin to a bazooka if he had to kill a butterfly. Thus, if a student's aim was a liberal education or even a mere exposure thereto in order to relieve the monotony of vocational training, he would do more wisely to address himself to a subject that was itself intrinsically liberal, that is, a subject valuable *per se* rather than *secundum quid*. In that event, what history should he go to? Probably most of his wiser counsellors would agree in answering that any one of three, to wit, American History, the History of Europe, or World History would best serve his purpose.

No man of sense would wish to quarrel violently with the advocates of any member of this Trinity. One might point out, however, that the young American who knows only American history is bound to be shallow and likely to be chauvinistic; that his fellow who knows only European history runs the risk of being a snob or a prig, a belittler of his own not understanding what his own may signify. As touching him who chooses for his single course World History much will depend upon whether his preceptor be a disciple of H. G. Wells or of Leopold Von Ranke.

Between the adherents of these twain a lively, even an acrimonious, debate would soon arise over both the temporal and geographical metes and bounds of the proposed course. The disciples of Wells would urge that they extend from the amoeba to the atomic bomb and from China to Peru. Proponents of this catholicity would argue, as Wells did, that thereby parochial prejudices would be in some measure exorcised and the mind of the rising generation prepared for that world view and that world citizenship without which the world, and all that therein is, stand in imminent danger of being destroyed.

On the other hand, the adversaries of these champions would contend that all this is far too widely spread to be anything but thinly spread; that the student would profit more by leaving the amoeba to the biologist, *homo Neanderthalensis* to the anthropologist, nuclear fission to the physicist, and China and Peru to the geographer. Proponents of this thesis would argue that history is not expected to perform the whole but only a part of the task of educating youth and that the history best adapted to this end is indeed World History but in Ranke's sense, not in Wells's, that is to say, it is World History as *Weltgeschichte* or the history of the *Romanische-Germanische Nation*.

The concept has to do with the Latin and Germanic people of Western Europe whose collective culture, deriving immediately from Latin and Germanic sources and developed in the course of time into a distinctive blend of both traditions, has given them that common character which, in spite of often fatal tensions, caused Ranke to think of them as one. It was the interplay of the influence of the *Romanische-Germanische Nation* upon its members, of the members upon the whole, upon one another and upon the rest of the world that he and his disciples conceived of as World History in the true sense.

Those who belong to this school would not deny that their concept is less global than Wells's nor that it is more susceptible than his to being distorted as a pretext for something like the old Greek snobbery toward barbarians. At the same time they point out that be the defects of the idea what they may, that idea nevertheless represents the civilization to which young Americans belong, the one which they know from experience howsoever distorted and vulgarized. This school, therefore, invoke in their defense the sound principle of beginning with the known quantity and the familiar one, be the knowledge and familiarity ever so imperfect. Extended and perfected, a knowledge of one's own culture, so they believe,

is no bar to the sympathetic understanding of others but is a useful safeguard to restrain one from running off in the manner of Hollywood enthusiasts to every new turbaned *fakir* from Bengal on the theory that here at last is a true prophet and the *summum bonum*.

Dissenters from the Ranke doctrine will doubtless console themselves that the *Romanische-Germanische Nation* whereby he set such store is now dilapidated beyond all reconstructing. Consider Europe, they say, and the elements of this European civilization conceived in the Rankian sense. Italy is effete; France is frail; Spain is less a corpse than the stench of one. So much for the Romance element. As for the Germanic, Germany proper, even before Nemesis overtook her, had veered so erratically from the European tradition as to be more a threat thereto than a help or a hope. Look at Scandinavia — nice but negligible. Holland is done for; Britain in such acute decline that one waits listening by the moment for her pulse as a power to cease. Meanwhile a new power rises, neither Romance nor Germanic. As the shadow of Macedon lengthened over the states of Greece, so that of Slavdom lengthens over Europe portending a new age and a new dispensation when Europeans may well exclaim: . . . *Fuimus Troes; fuit Ilium et ingens gloria Teucrorum*. . . .

In view of these developments why, it is asked, should American youth be bothered with having to sit at Europe's feet and learn of her? Of what relevance to American youth are Guelph and Ghibelline? Bracton and the feudal peers? Aquinas and his fellow scholastics? Castiglione and his debonair companions at Urbino? Are not all these dead and "forgotten as a dream dies at the opening day"?

These questions are more gloomy than pertinent. Even though the incurable decreptitude of Europe be assumed, still the dear old harridan lives on in her trans-Atlantic offspring, especially in the United States. That nation, relatively unscarred by war, remains in full vigor. In its people and institutions it is largely the *Romanische-Germanische Nation* transplanted. That is not to doubt that the United States has its own distinctive quality; it is merely to affirm that underlying that quality is a nature fundamentally European.

Reflections of this sort suggest the conclusion that if any single course in history should be commended to the student, it should be neither cosmic history in the manner of H. G. Wells nor the history of the United States exclusively nor yet again the history of Europe but rather a course in which American and European history are blended into a single whole. Precedents and patterns for such a course already are at hand in several colleges and universities, to name Columbia and the University of Iowa as but two examples. In quite the spirit of this argument both these examples concern themselves with Western civilization in both continents, call in the New World to redress the balance of the Old and thus broaden the Rankian concept of the *Romanische-Germanische Nation* to embrace that translated Europe which we know as the United States. They both present European and American development as one continuous process, the American phase emerging from the European, reacting upon it and being reacted upon by the European in return, as the Romance and Germanic have mutually reacted since the days of the migrations of the fourth and fifth centuries and continue to do not only in Europe Minor but also in the *Europa Maiora* established through the still greater migrations of the Atlantic period.

That there are practical difficulties in the teaching of such a course cannot be denied. Specialization in the graduate schools has proceeded to such lengths that it has become a hard problem to find instructors capable of joining the fields of American and European history into a single estate to cultivate with fruitful results in an undergraduate course. The same condition makes it difficult to discover a textbook suitable for such course; and until that book appear the course must weave its way back and forth from one text to another, attaining such unity as is possible from compilations of *Quellenstoff* and from the lectures of the instructor.

In spite of these difficulties Western Civilization, we hasten to affirm, better deserves to be recommended to the student as the one thing needful than any other in the field of history, provided, that is, one keep steadily in view the object of a liberal education.

That object, to be sure, is a many faceted one, like a jewel of great price; and now this facet and now that attracts the chief attention, sometimes dazzling the observer into forgetfulness of the rest. But certainly one facet that has just claim to uninterrupted attention is that which is concerned with initiating young persons into the great traditions of the race and with creating in them an awareness of how those traditions operate in modern society. To the accomplishment of that end history as here conceived is a means peculiarly well adapted since the fundamental traditions of America in both Church and Commonwealth derive from Europe and can be understood best only through a study of both their European roots and their American flowering.

This may be seen in an illustration taken from a tradition related to both Church and Commonwealth, the tradition that they ought to be separate, that in matters of conscience the civil government can lawfully nowise burden or compel. This idea developed in that Germanic part of the American tradition that is connected, first, with the Protestantism of Roger Williams, then, with the Deism of Thomas Jefferson and James Madison. It is an idea which now, in consequence of the resurgence of the Romance tradition as represented by the Roman Catholic Church, seems about to be exploded.

Omen of the imminence of this revolution, if not the proof of its accomplishment, is the recent decision of the Supreme Court of the United States in the case of Everson *v.* Board of Education of Ewing Township. In that decision the traditional Jeffersonian Deism of the American in Church-State relations was repudiated. That Deism is expressed in the Bill of Rights to the effect that the Congress shall make no law respecting the establishment of a religion, a prohibition which through the Fourteenth Amendment has been construed to operate upon the states as well as on the Union. That construction, however, no longer in any solid sense prevails, since now the state with the Supreme Court's blessing enjoys the power to levy taxes toward the support of Roman Catholic schools. The Bill of Rights is breached in a way that must give satisfaction to the spirit of Leo XIII though it can only cause the shades of Jefferson and Madison to shudder, those apostles of Deism who had held that "Almighty God hath created the mind free . . . and that to compel a man to furnish contributions of money for the propagation of opinions which he disbelieves, is sinful and tyrannical."

Such compulsion is now the law of the land albeit over the protest of Mr. Justice Rutledge who in dissenting along with Justices Burton, Frankfurter and Jackson declared:

> I cannot believe that the great author [of the Virginia Statute of Religious Freedom] could have joined in this decision. Neither so high nor so impregnable today as yesterday is the wall raised between Church and State. . . . New Jersey's statute sustained is the first, if indeed it is not the second breach to be made by this Court's action. That a third, and a fourth, and still others will be attempted, we may be sure. . . . Thus with time the most solid freedom steadily gives way before continuing corrosive decision.

It is immaterial to the question being discussed in this paper whether the liberty of which Mr. Justice Rutledge laments the loss be a liberty which lost deserves any lamentation at all. One is not here concerned to show whether the liberty involved in the case cited be precious or paltry; but only to point out that it has been created by one kind of European man working in one part of the European tradition and that it is being destroyed by European man of another sort working in another part of the same tradition and through his labors reproducing in America that historic tension with the first which is the very essence of the history of the *Romanische-Germanische Nation.*

The issue is here raised only to bring home in an emphatic way to the business and bosom of the reader the fact that the young American, if he

hopes to have anything more than a superficial surmise of his Americanism, must be initiated into the mysteries of his European background and heritage. Otherwise he can never understand himself nor yet perceive the true inwardness of the movements that most intimately concern him though they proceed under his eye, in his state, his county, his township, his school district, and his very classroom. These movements may relate to seeming trifles like the providing of bus fares and school books but they are pregnant with ultimate policy of no less magnitude than war and peace or than liberty itself, whether we are to enjoy it at last in the Jeffersonian sense or in the Leonine.

Even more compelling in its claim to attention than the concern to acquaint the youth with the traditions he is heir to is that concern to arouse in him an intellectual curiosity. It is this concern above everything else that makes of liberal education, diamond-like, an ultimate thing, a thing which in the repeated idiom of Aquinas is a thing *per se* rather than *secundum quid*. Liberal education is this because it is primarily a coming to a knowledge of the truth.

So far as history is concerned a knowledge of the truth chiefly consists of a knowledge of how the past really was. Such knowledge is of course relative; it cannot be absolute any more than a knowledge of the present can; for the mind of man is finite in both tenses. Ranke, who understood subtle matters, surely took this truism for granted just as he did that other commonplace that it is difficult for the historian to tell the truth since it is difficult for him to be impartial and objective, very difficult indeed for him to be so if he chooses a theme that, having a particular relation to himself, excites his solicitude. Despite these acknowledged handicaps, Ranke dared to avow that his aim was to discover how the past really was, that his ideal was *Nackte Wahrheit ohne allen Schmuck . . . nur kein Erdichten, auch nicht im Kleinsten, nur kein Hirngespinnst*. It may be conceded that he fell short of realizing that ideal; that he was much more emotionally concerned with history than he thought he was. At the same time he did discover and he did stimulate his disciples to discover more objective truth about the past than any of his predecessors. Therefore to repudiate his ideal and to assert as Professor Beard has done that it is better to be a maker of history as Voltaire was than a servant of history like Ranke and to imply that Ranke's servitude was vain since the very objectivity of which it consisted was illusory, all this is not only to err from a great ideal, it is also to open the door to history as propaganda and to come round in practice to Pastor's notion that historic truth and Catholic truth must coincide or that communist, fascist, or democratic truth and historic truth cannot collide. But to come to this conclusion is to be false to truth and to betray the chief intellectual purpose of a liberal education.

History in the Rankian sense conforms to that purpose better than the history of other schools because its theme, the development of the *Romanische-Germanische Nation*, has been worked out and worked over by a succession of scholars for now more than a century in accordance with that method that Ranke himself described and advocated in his famous essay *Zur Kritik Neuerer Geschichtschreiber* in 1824. It may not be impertinent here to summarize that method by illustrating it as Ranke used it upon one of his own sources, the Florentine historian, Francesco Guicciardini.

After giving a sketch of the Florentine's life, Ranke raised the question whether he should be regarded as a source for the history of the Romance and Germanic peoples around the year 1500. That he was contemporaneous was clear enough; but the critic wished to know whether he were only that or whether in addition he were an eyewitness of, and a participant in, the events he described. Guicciardini had to be sure been both eyewitness and participant often enough to qualify as a firsthand expert; but comparison of his testimony with other materials proved it to be less reliable than had hitherto been supposed. "Even where he had the opportunity to observe the most

exactly, just there," says Ranke, "does his work show itself derivative and dependent." This conclusion necessitated the investigation of the sources of the source, of conflicting testimony, of motives for coloring an account, an estimate of the varying degrees of the acuteness and honesty of witnesses. The result of the process was the establishment of a series of seeming facts, of apparent truth about a given period; but of such a truth held always tentatively in scientific fashion until new evidence based on the investigation of new sources might refute it or confirm it beyond all reasonable doubt.

Such is the *wissenschaftliche Methode* which Ranke made famous and which some appear to believe to be his whole claim to fame. Even if it were, it would be impressive enough; for the method elaborated in the German seminars and thence carried to the American to be there applied to American as well as to European history, not only furnishes an interesting sidelight upon the cultural unity of Europe and America but also gives to their respective histories such a fund of verified fact, that is to say, such a treasure of truth as the history of no other peoples has or indeed even the history of these peoples as it is developed and expounded in other schools.

That this fund of fact has traditionally for the most part concerned itself with politics, diplomacy, and war caused its value to be somewhat drawn in question a few years ago when economic, social, and intellectual history were the current rage. Without belittling history of that sort, one yet may harbor doubt that its conclusions could be very convincing unless corroborated according to the Rankian method; one may also wonder whether its material can in the long run compete for human interest with the Rankian material of politics, diplomacy, and war. These three activities are of a certainty man's most dominant earthly concerns in his coping with the present as they have been the historian's in dealing with the past. The truth, therefore, that the historian has elicited about them is of twofold significance; and it is eminently worthy of attention whichever aspect of that significance may be stressed. In one sense, the truth is the truth simply and as such, as for example, that Charlemagne was vexed with the Pope at having crowned him Emperor. This is a knowledge of the truth in past politics without bearing on the present; but it is valid nevertheless, for truth is for truth's sake, an end in itself, like a knowledge of the canals on Mars or the transit of Venus or that when two straight lines intersect the vertical angles are equal. Truth also produces some useful by-products. The study of the data of past politics, of diplomacy consummated and of wars lost and won produces conclusions of pertinence to practical matters in the present, though in the eye of your true Rankian, it is not these conclusions that primarily justify a knowledge of the truth about the past. If they were used for only that purpose, that would be tantamount to conceding that truth without practical applicability is valueless. The teaching of history in Ranke's spirit should help root up that heresy. Truth is of consequence quite apart from any practical bearing that it may have upon the politics, diplomacy, and war of the contemporaneous biped.

Yet Ranke and the Rankians will unbend circumspectly and warily, "to point a moral," if not "to adorn a tale." The few who consult them, however, will oftener than not find the moral a negative one, that is to say, a denial that what is so glibly urged by the unlearned as a lesson of history is a lesson of history at all. At the bottom of this wariness in reading the past as a text for the present are several considerations. Among them may be mentioned the conviction that man in the past behaved much like man in the present with a view not to the interest of posterity but to his own; that consequently a past age is chiefly in and of itself and is to be judged by its own aims, values and standards and not those of a subsequent time; that each age therefore, indeed each historic situation, has something about it that is unique, that constitutes it an *Individualität* and that therefore history seldom if ever repeats itself but in external seeming. This is a lesson of history which

to those who are looking for the obviously practical is bound to seem dark, abstract, and academic. It is a lesson, however, which might with profit be pondered at the present by those who are cocksure that the current relations of the U.S.S.R. to the U.S.A. duplicate those of the Third *Reich* to the U.S.A. in the days of Franklin D. Roosevelt; and can be successfully handled in the last analysis, therefore, only in the same way as German-American relations were handled, that is, by the adjournment of diplomacy and the transfer of policy to the arbitrament of arms. Any Rankian would concede that the parallels exist; he would also be on the search for the *Individualität* of the situation; that distinctive and peculiar quality of it which might indicate a different treatment as desirable. This search at least would prompt the display of prudence, a practical virtue not to be despised in affairs of state or even among conventions of journalists or conclaves of ecclesiastics.

Besides the doctrine of *Individualität* there are still other Rankian doctrines that give to history practical uses. For example, it can help on the principle of *Sinn im Unsinn* to foster in the minds of the rising generation a distrust of the propaganda against all traditional arrangements by pointing out the fact that imperfect as they usually are their imperfection is often but the negative side of qualities that we could hardly wish to do without and that the qualities and defects are frequently blended together into an organic whole. Nor would this doctrine raise up a generation of dull servers of the *status quo* provided other Rankian ideas balanced it; for Ranke set just store by human will. He was no determinist and no subscriber to the Marxist notion that impersonal forces alone count in the historical process. On the contrary he was a Machiavellian, who allowing weight to the impersonal, yet held that the personal must be joined thereto in order to induce historic events. He believed in great men, not immoderately as Carlyle did, but in a restrained way like Machiavelli who speaking of them declared "that they owed nothing to fortune but the opportunity which gave them matter to be shaped into what form they thought fit; and without that opportunity their powers would have been wasted and without their powers the opportunity would have come in vain." Youth trained up on that principle would prove no mere patient asses to plod and to bear the inert burden of a dead past any more than they would turn out callow enthusiasts, having been raised on the notion of *Sinn im Unsinn*. *Historismus* should produce in them a well-tempered character marked by both restraint and effort, by repose and struggle; and above all, by a lack of that cheap cynicism which ascribes sordid motives to the great men of history who like Charles V or the Founding Fathers of the United States defended and advanced in their own particular cause the common cause as well. Of such men Ranke observed that the greatest thing had befallen them which could befall any mortal beings in the historical process.

The same distinguished destiny might, in his thought, befall both a period and a nation. Just as Ranke apprehended a nation's history under two aspects, one of import only to the nation itself, the other transcending national bounds and of import to the world at large; so he thought of the history of a period. In certain ages men so surpassed themselves that what they did spoke with power not only to their contemporaries but also (albeit by no necessary design of theirs) to their posterity. Human experience in such periods became so rich and varied that though it could never be communicated with absolute fidelity to men in a subsequent, hence a different period or imitated by them in perfect detail, it did nevertheless have much to bequeath them that they could adapt with benefit to their own circumstances. It is that adaptible bequest to the future whereby an age wins its renown and immortality, laying the ages yet to come in its everlasting debt.

The idea is aptly illustrated in the field of feudal law and politics. It was from the contractual arrangements between suzerain and vassal that the principle derived that king and subject, ruler and ruled, are parties to a contract which constitutes a supreme law demanding the obedience of both.

The principle, transmitted through the centuries, has become the core of constitutional democracy in the United States. Though feudalism has long since grown dry as dust and dust-like has blown away, this principle yet remains alive, a principle of practical import and of inestimable value to all men who understand liberty, prize it, and hope to perpetuate it in the modern world. The principle was a notable part of that intellectual armament with which the war of ideas was waged against Hitlerism and continues in one or another way to be waged against absolutism in general. It was in good part the idea that gave a spiritual meaning to the material force which in men and metal the United States brought to bear upon the Axis, thereby in perfect Rankian manner, transcending itself in both deed and thought and enlarging American history for an historic moment into *Weltgeschichte*.

It is this action and reaction of Europe and America upon each other and upon the rest of the world that, as has been already intimated, requires the kind of course suggested in these pages. Now one may concede that divers Rankian doctrines, one may grant that the substance of the Rankian method, may be expounded as well in a course in American history or in one in European history as in a course that combines the two. But if that latter course can accomplish these purposes, as it can, and if furthermore it can accomplish a purpose that the others cannot, namely, that clarifying of that reciprocal action of elements without which the full import of both European and American history is lost to view, why then that course should bear the palm alone and become that single course recommended to that student of good parts and earnest endeavor who yet *mirabile dictû* wants one course in history and only one in his college career.

Faculty Adventures in Educational Planning

BY RUSSELL M. COOPER

A PROFESSOR in a highly respectable midwestern college recently remarked: "I have completely despaired of ever getting our faculty excited about changes in our educational program, particularly with respect to general education. Everyone seems perfectly complacent and satisfied to do his own special job without worrying about the total effect upon the student. Can anything awaken us?"

The query of this professor has been echoed by college faculty members and administrators throughout the country. With the world in such dire straits and looking to education for fresh and dynamic leadership, how can faculties remain so calm and unchanging? Admittedly there is little virtue in mere change, but with the world moving forward so swiftly on every hand life is placing much heavier responsibilities upon the people. Colleges must rise to this challenge lest the people perish.

The average college curriculum is a curious mixture of liberal and vocational courses garnered through the years with little over-all design. Some of the courses are frankly an imitation of offerings in other institutions, adopted on the presumption that they are therefore normal and respectable. Some have a curious relation to the professors' own fields of research. Other courses, such as those in Bible, business, and vocational training, may have been instituted at the behest of some element in the constituency. Still other courses are the direct result of the college's desire to be accredited by musical, scientific, and educational associations. Not policy but pressure has too often been the dominant factor in the formation of the conglomeration pleasantly referred to as the college curriculum.

The content of the courses themselves frequently reveals the same external factors and a minimum of adaptation to the unique conditions of the college community. Having decided to offer the course, many teachers are satisfied to select the most convenient and readable textbook, building the course entirely around that volume. These textbooks by necessity are written for widespread consumption. They cannot be addressed to the special needs of particular students or colleges but must summarize the subject matter of the field. Many of them present their material very well but there is no assurance that they result in a comprehensive, meaningful educational program for the student.

Operating in this framework, many faculty members have found a congenial niche related to their field of specialization where they feel secure and content. The majors who go on into graduate study or professional service reflect credit upon their undergraduate training and afford deep satisfaction. Why should such professors suddenly become aroused concerning the needs of great masses of students who may take but one course in their field and never be seen again? To worry about this latter group is to depart from a life of security and satisfaction and to become disturbingly involved in a task which is exceedingly difficult and of uncertain reward.

The really amazing fact is that on hundreds of campuses throughout the nation individual teachers and entire faculties are becoming aroused con-

cerning the general educational needs of students and are busy revising their programs to meet those needs. The vocational interests remain and the satisfactions from the advanced work of major students continue, but a new note is added. Professors are rallying to the demands of the time and becoming vitally interested in helping to make competent persons out of students whose major interests may lie far afield. The very difficulties involved in organizing material and presenting it in a manner which will challenge the imagination and motivate the student, is in itself an exciting experience. For many instructors the development of general education courses has opened a new frontier of educational discovery and fulfillment.

DYNAMIC FROM SMALL BEGINNINGS

Fortunately experimentation in general education can proceed without cooperation, or even the interest, of the entire faculty. Indeed our very traditions of academic freedom and departmental sovereignty conspire in this instance to enable an enterprising professor or department to try out general education courses while the remainder of the faculty goes on as before. The new venture may consist simply in revising the initial course of the department in order to adapt it to the 90 percent of students who will not major there and who will use the experience only as more intelligent laymen. In undertaking his reorganization, the professor will sift his material carefully, selecting those elements which are most fundamental and important for the ordinary citizen. He will eliminate large quantities of technical material which are of interest only to the specialist and which can readily be introduced in more advanced courses. Since most of the enrollees will take only this one course, he will include relevant material from other departmental courses as well as from other fields which will enable the student to develop broad, meaningful concepts.

It is at this point, when the new course begins to impinge on the offerings of other professors, that the instructor will need further cooperation and support. In actual practice, nearly all basic general education courses cut across departmental lines. An offering in general biology includes both zoology and botany. A course designed to give a broad grasp of the physical universe, including both scientific method and principles, will normally include material from astronomy, physics, chemistry, and geology. A course seeking to interpret social phenomena and to develop more responsible citizens will necessarily need to draw upon economics, political science, sociology, geography, and history. Most humanities courses include materials from history, philosophy, literature, music, and art. Since life knows no departmental boundaries, the more closely these courses are related to practical needs of the young adult, the more certainly will they transcend traditional departmental walls. At this stage it is important that a committee representing the related departments should counsel with the instructor, giving any necessary assistance.

When first attempting interdepartmental courses faculties have frequently taught them on a committee basis, with each instructor appearing in turn to present the essential elements of his field. For the most part this arrangement has proved unsatisfactory. There has been little integration among the various parts and each instructor has attempted the impossible task of condensing a full year's work in the principles of his field into a five- or six-week experience, resulting in oversimplification, abstraction, and superficiality. Much more successful results have ensued when a single instructor carried the class throughout the entire year selecting the materials and integrating them around basic problems and issues in such fashion that clear insights have been established for every step of the way. When several instructors from related fields take a section each for the entire year and then pool experiences and work cooperatively in staff sessions, the results have often been highly successful.

In any case it is important that the course be set up on an experimental basis at first and vigorously evaluated in the light of its initial objectives. On the basis of this appraisal the course can be

continually improved and eventually win the respect of the entire faculty. Almost inevitably, this demonstrably effective experience in one field will stir the imagination of teachers in other fields and thus by a process of contagion the general education movement will catch on. There will be a minimum of faculty resistance because the program is voluntary and not instituted under pressure. At every step, of course, it is important that the administration should give encouragement and support to the new enterprise.

THE ALL-COLLEGE ATTACK ON THE PROBLEM

In many institutions the majority of faculty members are already concerned with their responsibilities for general education, whether as a result of the leavening influence of their more experimental brethren or from other circumstances. When the faculty has reached this point it is possible to proceed much more quickly and soundly than is feasible when only one or two individuals act alone.

The faculty members must first determine their basic philosophy of general education. Does the job consist primarily in selecting the most important aspects of our cultural heritage and transmitting them to the on-coming student generation, or is the basic job one of identifying the most important needs of young adults and seeking to fulfill these needs irrespective of the cultural heritage. Some institutions, such as St. John's College and to some extent the University of Chicago, proceed with the former philosophy. An increasing number of institutions, however, appear to be starting from the latter premise, using the cultural and scientific traditions simply in such manner and to the extent that they really help satisfy these basic human needs. On this basis the objectives usually include such aims as preparing the student for effective personal and family relationships, promoting intelligent and responsible citizenship, affording an awareness of the scientific world in which mankind is operating, and developing an appreciation of the aesthetic values available to the common man. Such colleges, of course, would encourage their students eventually to go on beyond this minimum of general education and to enjoy the luxury of more advanced cultural experiences.

There are many ways in which a faculty can proceed to assess personal and social needs and so determine the purposes of their general education program. Some groups have found help in consulting the results of the prewar study in Maryland entitled *Youth Tell Their Story*. Other institutions, such as Stephens College, have surveyed the responsibilities of their alumni in an effort to discover the kind of preparatory courses which would be most useful for such adult activities. The study of Robert Pace, *They Went to College*, analyzed a large group of alumni from the University of Minnesota in order to discover through their activities and reflections the degree to which the general education program had proved successful and could yet be improved. Such alumni studies have been employed with great profit by a considerable number of institutions in recent years. Other colleges have sought to determine the general education needs of their students through studies of their present undergraduates. Still other institutions have found aid in this definition from the report prepared by a committee for the American Council on Education entitled *A Design for General Education*, a volume which not only sets forth a series of objectives based upon human needs but also outlines the courses which might be expected to meet these objectives.

Once the institutional objectives of general education have been determined, it remains for each department and professor to translate these purposes into his own field and adapt the instruction accordingly. Unless these component factors are explicitly recognized and honestly emphasized the all-college statement will remain a mere facade of little real significance.

In order to insure this concreteness in terms of actual classroom experience, some colleges have profitably reversed the process of analysis. They have begun by asking each teacher to list the general educational objectives for which he is constantly striving in each of his courses (and often

such statements are checked by comments from the students themselves indicating the goals which they have been conscious of). These course objectives are then summarized and synthesized into departmental objectives and the latter are assembled into divisional and eventually into all-college purposes. The institutional statement, as finally arrived at, describes the purposes which are in actual operation in the college and not those dreamed up by some committee. It then remains for the faculty to scrutinize this summary of operating objectives to determine whether they meet the expectations of the students and constituency. In so far as they appear inadequate, the all-college statement can be revised and the new implications passed back to the departments and the courses in concrete fashion.

In any case it is important that the objectives be clearly understood and that every instructor appreciate his responsibility for their fulfillment. When the statements are couched in terms dealing with the actual changes anticipated in student behavior, rather than in intellectual concepts to be gained or subject matter to be covered, the purposes are likely to have more meaning for both faculty and students. These functional goals are ultimately the ones which really count though admittedly they are the most difficult to define and to measure.

When the faculty has determined the institutional objectives for general education and has made every staff member aware of his special responsibility towards their realization, it remains to encourage efficient instructional practices and periodically to evaluate and revise the program. The improvement of instruction is a big problem in itself and beyond the scope of this paper. We have already noted the value of an alumni inventory as one means of appraisal, both of needs and of outcomes. Other devices of college measurement are also available.

Examinations administered at the end of the sophomore and senior years give important clues concerning the strength and weaknesses of the program. The Sophomore General Culture Test and the profile portion of the Graduate Record Examination are instruments widely used for this purpose. However, since these examinations frequently do not square with the functional objectives of the institution, the faculty may wish to supplement standardized instruments with special tests of its own. Recorded observations of the actual intellectual habits and performances of students have often proved very helpful.

In addition to these objective measurements of students' achievement, much light concerning the validity of the educational program can be gained from a study of the catalogue offerings, the course syllabi, and particularly from the final examinations. By examining these materials a committee can frequently discover where the institutional objectives are being emphasized or ignored and can help instructors to rethink their practices accordingly. Through such processes a faculty can steadily advance. In the long run the greatest progress will come not through revolutionary declarations and bold about-faces in program but through continual delineation of purposes, improvement of methods, careful appraisals, revised purposes and methods, and so on in a never-ending cycle of development. To the extent that scientific methods of analysis and appraisal are employed, the general education program will be assured of a sound foundation and healthy growth.

HOW TO ENERGIZE THE FACULTY

In the previous section we have noted procedures which a faculty may profitably employ in promulgating and carrying through a program of general education. The faculty's interest in the problem may come gradually through the contagious example of successful experiences enjoyed by a few, but it can also be stimulated and maintained through a considered program of faculty education.

The very nature of the professor's job tends to pull him deeper and deeper into the complexities of his own special field of interest. It is hard for him to maintain a broad statesman-like view of the total educational process unless conscious effort

is directed to this end. Some faculties make it a regular practice to devote alternate faculty meetings to fundamental educational problems. In these sessions the findings of committees concerning student needs and experimental practices are fully discussed. Frequently someone reports on practices of other institutions and visitors from those institutions are invited in to explain their program. At still other meetings, the faculty may hear and discuss the review of some book in the field of higher education, thus gaining a common vocabulary and insight concerning educational issues and trends throughout the country.

It is always rewarding for a group of faculty members to visit a neighboring campus and see the operation of that program, particularly those phases which are novel or of high repute. Indeed the simple intervisitation of classes among teachers in the same college is always salutary and stimulating, particularly if there can be frank and free discussion afterward. In watching the teaching methods of others, a professor is certain to see himself in clearer perspective and to gain new insight concerning sound and unsound practices.

One of the most rewarding devices for stimulating faculty members is the summer workshop which has become a regular feature of many universities. The workshops sponsored by the Cooperative Study in General Education and the Commission on Teacher Education of the American Council on Education are well known. Similarly the workshops of the Committee on Liberal Arts Education of the North Central Association of Colleges and Secondary Schools have served to prepare faculty members for more effective leadership back home. These workshops, like others springing up throughout the country, give faculty members an opportunity to assess the current trends in higher education, to swap experiences with other institutions, and to design a systematic and thorough study of their own college problem. Almost invariably the workshopper returns to his campus responsibilities filled with new zest and insight to spur his colleagues.

The importance of the administrator in this process is obvious. He must encourage faculty members to take advantage of these opportunities and help underwrite the costs. He must be quick to recognize imaginative instruction and assist those who are leading the faculty in its educational analysis and experimentation. At the same time he must recognize that only the faculty members themselves can ultimately carry the program through. Since the program has meaning only in so far as it is reflected in the daily classroom activities the faculty must thoroughly understand and endorse the objectives. Otherwise the whole program becomes a sham.

Normally the faculty will proceed most rapidly through committees and subcommittees, each giving thorough consideration to some phase of the problem and then reporting back to the entire group. This arrangement affords a splendid opportunity for the inclusion of younger faculty members who frequently have the energy and fresh ideas necessary for so challenging a task. Rank and departmental status should be minimized in such activities while the ability to conceive and defend sound recommendations should bring recognition. The success of the program therefore is determined partly by the mores of the campus and the morale of the faculty. In this respect, also, the administration is a key factor in promoting or discouraging the ultimate success of the enterprise.

When the educational planning proceeds in the manner herein described, it should be possible to avoid the insecurities and defense mechanisms which have sabotaged progress on many campuses in the past. It must be recognized that some professors will never change and the attempt to transform them will only disturb them and weaken whatever values they have traditionally contributed. On the other hand, gentle persuasion, continual faculty discussion and experimentation will frequently excite the interest of the most unexpected professor.

The strategy of faculty leadership requires the highest talent and most patient diplomacy but the reward may be great indeed. In many colleges the

experience of educational planning has become an exciting adventure resulting in vastly improved services to students. Through such activities we may be assured of an increasing group of college graduates capable of grappling with the manifold problems of our time.

General Education and Student Experience in Creativeness

BY G. W. STEWART

TEACHERS in liberal arts colleges have not lessened their conviction that a student can have an educational experience which produces a profound change in his mental outlook and habits. Yet teaching efforts in this direction have been seriously thwarted by the changes in a liberal education which have been produced largely through external educational pressure.

The task of a professional education is to give specific knowledge and training in a limited field. More and more specialized instruction has been included in each professional curriculum and the graduates now are much better prepared for today's demands. On the other hand, the liberal arts curriculum has retained the same time requirements and simultaneously the "liberal" aspect has been greatly decreased by the demands for more and more specific training. This probably could not have been avoided, and an analysis of the causes would serve no purpose here. As an illustration of the conditions now existing, the cost of a college education and the widely spread desire for it makes necessary the inclusion in a liberal arts curriculum of a specific training that can give immediate earning power. The acquisition of knowledge has crowded out an ideal "educational experience." At the same time liberal arts classes have been more and more smothered with students of mediocre ability and meager ambitions. Well aware of these handicaps, the college has probably been too much solaced in that its degree has been more extensively required for professional study. But even here there have been disappointments. The A.B. or B.S. degree is required for registration in the graduate college, but everyone knows that college graduates desiring advanced degrees are not at all well prepared in one important particular — they do not have adequate confidence in their ability to think independently and to be creative in an ordinary degree.

Just what can be done for liberal education? The answer given in this article, while not complete, is both fundamentally important and practical. It takes advantage of the current opportunity which lies in the emphasis upon general education, "that which prepares the young for the common life of their time and their kind." [1] Clearly any important opportunity for the teacher in general education must be grasped eagerly if he is to give the student an experience which goes beyond memorization and uses the higher processes of the mind. Knowledge must still be required but the student should develop a confidence in using it. From a practical point of view the development of this confidence through independent thinking is more significant in producing an "educational experience" than is the acquisition of knowledge.

The title of this article probably raises some doubts. Since general education is not at all associated with specialized training and extensive knowledge, how can it possibly be active in any phase of creativeness? The doubter may also ask, what do we actually know about creativeness anyway? Such questions certainly indicate that there may be obstacles to a cordial reception of the claim here made that general education can ac-

[1] E. J. McGrath, "The General Education Movement," *Journal of General Education*, I (October 1946), 3.

complish something really worthy in the encouragement of creativeness in everyday life.

It is at once to be granted that we do not know all the details of the mental processes involved in creativeness, yet psychologists have not neglected the subject and many teachers, through their own experiences, have had intimate acquaintance with creativeness. To define the act of creating as applicable only to those who are said to possess genius would be to neglect most of the quantity of original work of the world. Perhaps it would be reasonable to describe creativeness in action as a process which is characterized by the emergence of something recognizably new and valuable to the individual. If he is a graduate student preparing a doctor's thesis there will be at least a fragment that is quite new to all. If he is an undergraduate, and more especially a student in a course in elementary general education, his results will doubtless be novel only to himself. Yet the two efforts involve the same mental processes.

Everyone is quite familiar with creativeness of the extraordinary type represented by the works of the masters. In this essay the emphasis is placed upon the creativeness of the ordinary man in each and every walk of life, even the humblest, and the influence of this process in the everyday success of the individual working at his own level of attainment. Every employer of labor, skilled and unskilled, will recall how much difference there is among such men in the ability to adapt one's self to new conditions and to find new solutions that must be based thereon. The successful laborer is creative. The same statement may be made of those in the professions and in the business world. Let it be said, then, that there is some creativeness which requires a trained natural ability of a rare degree and that there is much of it which does not require such unusual ability.

How, then, in our consideration, shall one separate the unusual creativeness from the ordinary? It appears not to be necessary, for the complex process of creativeness appears separable in two parts, one involving general abilities and the other specific abilities. The "general" ones can be used in many different undertakings. The specific are narrowly specialized. This separation of general from specific will be found to be the key that makes available a basis for a course of action relative to the encouragement of creativeness in general education.

What are the abilities which are general and hence widely applicable? Before stating some of them, it is well to be reminded that the productive or creative thinking processes have been considered in much detail by numerous psychologists. By way of illustration one might refer to a study of the creative mind by Spearman.[2] Therein is discussed the "qualitative principles" and the "quantitative laws." Spearman evolves six processes of the mind which generally enter into close and intricate combinations with one another. All of them become operative through the application of abilities, and among these we will here consider only those of the general type. What are these general abilities? Quickly to mind come persistence, exercise of reason, imagination, a sensitivity to external suggestions, and a desire to grow, to find new relationships and correlations, and to meet new circumstances in an independent manner. Creativeness requires an attitude which stirs the action of general abilities. None of the general abilities will be found completely absent in the ordinary man. None requires highly gifted intelligence, senses, or emotions. All of them not only can be trained but need training.

Education can cultivate these general abilities and thereby the creative attitude. This attitude, this mental stance, this active outlook, this essential approach, is a guide that gives rein to and directs both general and specific abilities. The value of the cultivation of these general abilities is enhanced by their general nature, for thereby occurs the possibility of an habitual attitude which is transferable from one objective to another. The need of this cultivation here and now is very great. We of the United States are proud of free enterprise, but such a country sorely needs those

[2] Charles E. Spearman, *The Creative Mind*, (London: Nisbet and Co., 1930).

who are creative enough to exercise this freedom. Without elaborating, one may easily opine that now is a critical period in our national life that demands new pioneering, new independence of the individual, and a greater security. General education should make each student aware of the possibility of his creativeness, each at his own level. This suggestion includes only a small territory of educational effort, but it is a place where a marked stress is needed now.

One may insist that we are cultivating these general abilities. If so, what else needs to be done? It is fairly certain that practically every good teacher gives experience in creativeness to his students. He assigns essays to write which require individual interpretation. The instructor in mathematics or physics proposes problems in which the individual must find new methods of procedure to obtain solutions. The teacher of history asks the student to find his own interpretation. Certainly experience in creativeness is given throughout general education. The reason the instructors make such assignments is usually because they find that the student's interest is thereby increased. *But seldom if ever does the instructor take advantage of these assignments to give students an awareness of their creativeness.* That is the reason that even the best students who enter upon graduate work have little if any confidence in a creative effort of their own. A brief inquiry of recently elected Phi Beta Kappa students shows that, almost without exception, they have had little or no conscious creative experience in college. This is a shocking fact, but upon mature deliberation, not a surprising one. And there is nothing to be gained by supposing that merely self-criticism will alter the situation. The truth is, *the neglect of the instruction here advocated has been occasioned by the inherent difficulties and by the lack of compelling necessity.* There are serious obstacles to be overcome.

Instruction that will produce independent thinking and will give the student an awareness of his creativeness and an incentive to use it generally is both time-consuming and challenging. Even if it were simplified by having a class of uniform ability, the instructor would need to add to his methods of teaching subject matter other devices which would encourage independent thinking and conscious creative effort. The students, if the assignments are appropriate, will enjoy this special opportunity, but the actual nonuniformity of the class introduces a real difficulty which the organized plan of instruction must surmount. *When the student has been creative, even to a very small degree, he must be made aware of that fact and of the part played by general abilities in the accomplishment.*

Then there is the difficulty of the transfer of training, and for this at least one of two conditions is essential. The first is that there must be a similarity — that is, a similarity between the influencing and influenced functions. The second condition is generalization. *It is quite evident that if the student is made aware of his possession of the general abilities requisite in creativeness and develops a creative attitude that becomes habitual even to a slight degree, there has been a successful generalization of his training.* Just how this may be done depends upon the subject matter of a course and the ingenuity of the instructor. It is certain, one can be assured, that if the similarity condition is not met, the generalization one must be. In general education one anticipates that the generalization condition must be met, though of course both conditions may often be present in a notable degree.

Quite naturally there is some doubt as to the possibility of acquiring enough information in an elementary course to enable a student to think independently and creatively. This arises from the fact that to produce something new to the world a person must first master what is known in that subject. Evidently the student may be given a problem which similarly extends out into what is unknown to him. Its solution would require creativeness for him. If, then, the teacher centers his interest not upon an original result that is historically first but rather upon whether or not something emerges which is new and valuable to

the student, at once he realizes that such creative activity depends upon the way in which the student uses what he already knows. Tasks appropriate to his information can be assigned. As an illustration the writer's experience with a brief four-semester-hour course in physics may be mentioned. In it was practiced the following: substitution of "thought" questions for problems requiring the use of memorized formulas, challenges with especially difficult questions requiring creative effort, introduction of contests in such problems, consideration of the processes involved in solving these difficult situations and the use of general abilities therein, and special discussions intended to aid in the transfer of creative effort to any objective.

We teachers have sinned not only in the absence of this creativeness goal but also in its actual negation. Often the teacher, having his mind only on subject matter, will become impatient with a student who presents an idea which is actually old, although new to himself. The student may be met with the instructor's statement, "Why, that was known twenty years ago." This remark has uncomplimentary implications and the student learns not to be so guilty again. Such a reception is surely deadening to any desire to indulge in independent and creative thinking. There must be a reason for this shocking treatment of the student. The instructor's mind naturally has two centers of interest, the knowledge of the student and his real education. The distinction is not lost, but it is so easy to overemphasize information and to submerge the cultivation of good habits through actual experience. Knowledge is soon forgotten, but attitudes and habits remain.

The advocacy of the independent thinking-creativeness-goal definitely stresses the necessity for the very best quality of teaching in general education courses. While it is desirable that these teachers be broadly trained, it is equally important that they be scholars of the creative type. They must have entire confidence in the every-man-creative doctrine and they must have a high regard for the educational results that are superior to the mere acquisition of knowledge. They must be eager to add to necessary memorization the cultivation of the higher mental processes. In specialized courses given to undergraduate majors and graduate students the instructor is rather fully committed to the mastery of the subject matter. In the courses in general education he should be guided by different motives, knowing full well that they are not inferior. He should (1) make the material of the course applicable in a broad and a particular sense to everyday life, (2) provide definite opportunities for independent thinking, and (3) lead each student to an awareness of creative ability at his own level, this ability being capable of general application. Only an instructor who understands the difficulties, the discouragements, and the deep satisfaction in creativeness of value to oneself, can do well what is here urged.

If the term "creative" seems to be too forbidding for convincing use, then perhaps the word "productive" could be substituted.

The lack of uniform ability in a class increases the teacher's difficulties in attaining the independent thinking-creativeness-goal. This has the compensation of a greater stimulus, a more practiced and enjoyable art, and more profound satisfaction.

It is high time that the cultivation of the habitual attitude of creativeness be stressed in general education, and that the students be made aware of their possession of the requisite general abilities, effective in any effort of thinking and doing. Our art must be improved to meet this neglected but pressing opportunity.

Toward Better Graduate Education

BY J. I. SEWALL

NO ONE ever talks or writes about college education in America without a sense of urgency. Always far from perfect, there seems to be a groundswell of opinion that the incumbent undergraduate curriculum is, in view of postwar conditions, downright unsatisfactory. Suggestions of a major overhaul are freely put forward by every one who is interested. These are of all sorts; but the leading line of thought that runs through them all is this: we must have better teachers and we must have better teaching.

This means that we must be able to attract into the teaching profession a very substantial proportion of the most able men and women who graduate from college each year, and seek employment. Once lured into the teaching profession, we must find ways of keeping them not only happy and content within it, but of keeping them teaching.

These conditions do not exist today. Among our more able young people, only those strongly motivated toward community service consider teaching as a career. And of those who choose it, altogether too many wish, by the time they are forty, that they had chosen something else.

Salaries are certainly part of this picture; but it is an oversimplification of the problem to suggest that we can cure our present ills by financial justice alone. The intellectual and psychological orientation of academic life itself must be changed. We need a new conception of academic achievement. We have been serving false gods, and we need to revise our concept of the *summum bonum*. The place where most of us got the wrong steer was in graduate school; and this is the crux of the whole problem in its nonfinancial aspects.

The graduate school is the central fact in American education. All that is good in our present system derives from the virtues of graduate training as we now have it; and all that is bad results from some fault or error that inheres in either the concept or the procedure of graduate work as we now know it. It is a waste of time to attempt any adjustment, rearrangement, or improvement of college curricula unless we are able to coordinate these changes with existing facilities for graduate education. And if existing facilities do not suit, we must change them, or provide better ones.

The graduate schools of America are not giving satisfaction. The people who claim to be dissatisfied with them are graduate students, college teachers, department heads, deans, and college presidents. At least, I have accumulated a corpus of *viva-voce* testimony to this effect from the sources named, and over a period of about fifteen years. I am not, of course, privy to the thought of every individual in America; but I have no reason to impeach the sincerity of the remarks made to me. Neither have I observed anything in graduate work which leads me to believe the speakers to be incompetent. I doubt whether the most elaborate survey of opinion would qualify my statement to any significant extent.

The complaint against graduate work as it now exists can be summarized very briefly. Postulating the assumption that the welfare of America demands more teachers and better teachers, it boils

down to two points: (*a*) the purpose of graduate work is wrongly conceived, and the entire program is wrongly oriented as a result; and (*b*) for economic, biological, social, and educational reasons, the present graduate procedures are wasteful, unrealistic, inequitable, and sometimes irresponsible. I should like to develop these points at some length.

I

What is the purpose of graduate work? One usually gets a nebulous answer to this question; but in so far as a clear statement has ever been made, the purpose of graduate work in America is to train scholars who by their research will *add to the sum-total of human knowledge.*

No one can possibly object to an expansion of knowledge. To do so is to deny one's humanity by denying the impulse to understand. The complaint against this ideal is not a complaint against the ideal itself, but against the muddled methods by which we now support it. These not only militate against any important expansion of knowledge, but they interfere with other desiderata that are quite as important to society as a whole.

The college teacher does not work on the frontiers of established fact. He works with students who are in the status of students because they *do not know*, and because they *need to know* a reasonable portion of the corpus of knowledge already established (some of it for a long time). He works with immature minds, and tries to make them mature by supplying both subject-matter and method.

This is an exacting responsibility. Our error has been to assume that almost any one can do it. But it by no means follows that a man who is able to refine Boyle's Law in the laboratory can teach freshman physics successfully, nor when the freshmen fail to learn it are we correct in our assumption that the trouble is to be sought in the shortcomings of delinquent American youth. We have been very wrong in supposing that society might safely entrust the teaching function to persons who are trained for quite another technique; and while no conscious malice has been involved, a certain stigma nevertheless attaches to our support of research by manipulating budgets which ostensibly exist to provide education. It is vital that society provide for research; but we should provide for it openly, clearly, and directly.

It would be helpful to clarify these very brief statements by recalling the sequence of events by which the present situation came about, and by considering certain aspects in more detail.

In so far as the history of the thing can be put into a word, here is what happened: In 1769, James Watt secured the patent for his steam engine. This made possible the Industrial Revolution, which in turn supplied a forced draft to natural science, the impulse to which had been smoldering in the European mind since the time of Roger Bacon.

The scientific spirit infused everything. By analogy, especially in the German universities, it was applied to fields of experience and learning essentially nonscientific in character: religion, history, literature, and the arts. This last statement we must take thoroughly to heart; and at the same time we must not be ungrateful for what has been done. It is and will remain impossible to reduce Cézanne, Buddha, and Chaucer to a common denominator expressed in some system of quantitative units; but every one of us has reason to admire the German system. It stiffened things up. It accumulated and catalogued useful facts on an encyclopedic scale. It made the relation of fact to judgment clear and plain, so that everybody might understand it.

But whatever its virtues and achievements, *the expansion of knowledge* is no longer an adequate ideal for the American graduate school. There are various reasons for this.

In the physical sciences, where the ideal originated, it still gives satisfaction. This is because the door to substantial achievement is still open to every sincere researcher. But in many other fields, the encyclopedic effort has run full course, and done its work. Certain areas of history are still unexplored, to be sure, but others are thor-

oughly worked over. The history of Oriental and Central American art, for example, is still a wide-open subject; but there is no use in repeating Berenson's studies of Italian painting, and no use in measuring the Parthenon to see whether Penrose's third decimal place is always right. And if I may cite examples that are known to me by the comment of friends, it appears that research in the classics is almost done; and I gather that the same thing is true in certain aspects of English literature. Collateral investigations are still possible, of course. We can argue whether Pytheas of Marseilles actually penetrated so far north as he says he did, or whether he lies. We can coordinate the findings of modern botany with Shakespeare's knowledge that grass grows faster at night. But pending the physical advent of new evidence, investigation in any scientific sense is limited to minutiae: until some one can prove that the boy who left Stratford is the same human being as the man who came there to retire after a successful London career, it remains impossible to write the biography of Shakespeare and be sure about it. We just don't know; we probably are not going to find out; and there is no joy in refining the evidence we now have.

I have been told that the true scholar does not discriminate between great facts and small facts. He loves them all. I do not believe this; and if it is actually true in individual cases, the door is certainly open to the suggestion that such persons are disqualified by temperament from teaching young people.

It ought to be pointed out, secondly, that certain fields of learning are primarily concerned with aspects of life where the establishment of facts, while not theoretically impossible, is at least quite beyond our present capacity. In these areas (and very conspicuously in my own field of art-history) the tabus of science have caused us to default like cowards from certain large and difficult questions of meaning and significance. We have been taught to feel self-respect only when we "have our feet on the ground." In practice, this means that we retreat toward such facts as we can establish, however trivial they may be. This aspect of the problem can be summed up in the remark of a younger friend of mine, now devoting his life to medical research, and then a premedical student at Harvard. Deeply sympathetic to scientific research as such, he was thoroughly disappointed in Mr. Kittredge. "I did not take that man's course," he said, "to have him reduce Shakespeare to a vehicle for the study of the history of words. I expected something better." We will, and we can be sure of it, get nothing better until we cease supposing that young men trained as specialized technicians in philological research can be trusted to teach English literature; that is, to relate form and content to the experience of the race, and make it impinge upon the inner life of American undergraduates.

The mechanics by which we have done these things (and worse) ought to be set down if only as a matter of record. Seeing them in black and white may, indeed, give rise to reflection.

Almost one hundred percent of our college teachers get their professional training in graduate school. This does not reflect an acceptance or endorsement of graduate training as we now have it; it reflects the plain fact that the graduate schools have effective control over appointments to faculty rank at the college level. And there is literally no way whatever to gain admittance to college teaching except by graduate work and the endorsement of a graduate faculty. The exceptions are so rare and so few that they need not delay us.

Naturally, the best recommendations and the most desirable jobs go to the students who have best fulfilled the ideals of the graduate school; for example, to those who are more interested in research than in teaching, and who show the greatest promise of production. It is using too harsh a word to say that a teaching position is conceived as a sinecure for research; but it is accurate to say that the spirit of the sinecure is more or less openly evident in a majority of places.[1]

[1] Those of us who advise young people must steel ourselves to making this abundantly clear. Unless the primary

Once a teaching post has been secured, it is only natural that the orientation inculcated in graduate school should hold over, molding and motivating the attitude and action of the teacher. I have met only a few who had the courage to state in blunt terms that teaching was, to them, a more or less distasteful means to the end of research. While I did not at all agree with them, I must say that the tough honesty of their position commands respect. It is much more common to hedge. It is a familiar experience, for example, to hear that any faculty member who "isn't lazy" can simultaneously carry on an important research project and deliver a "first class" account of himself as a teacher. I have had these men pointed out to me; and I have even had friends and colleagues who pointed themselves out to me as fulfilling both the stipulations of this bipartite desideratum. I have never known a faculty member who actually did the two things well at the same time; and I would like to point out why.

Research, as I have seen it carried on, is accomplished in one of the following ways, and I doubt if it is accomplished in any other way:

(*a*) By having a private income so large that it is possible to drop teaching whenever one wants, and research as long as one pleases. This is the very best method of all.

(*b*) By persuading the administration to reduce one's teaching schedule to about three hours a week. This is second best, but still excellent.

(*c*) By muddling through one's classes as best one may, and putting the real work into the project in hand. This is openly advised at many places.

(*d*) By over work; that is, working double time in an effort to do justice both to teaching and research.

(*e*) By the reckless expenditure of private funds. "My last book," a colleague wrote me, "cost me thirty-one hundred dollars, which I had a very hard time earning in extension work." This method brings up very serious questions of family responsibility.

(*f*) By getting leave with pay, sabbatical or otherwise, and with or without a grant-in-aid. Correct in principle, this method affects very few persons, and alters the scale of the problem not at all.

Most research, as every honest man knows, is brought about by method (*c*) in some combination with method (*d*). I have always believed that method (*c*) was morally outrageous; and I have never heard a defense of it which carried the slightest conviction. Method (*d*) is both honorable and gallant; but it is a cancer in the academic world. A pressure of work is tolerable and even stimulating for a reasonable length of time. Prolonged overwork shortens the perspective, narrows the mind, and ends up by draining all warmth and color from the personality. I have seen the thing run its course in various aspects of twentieth-century life. I am not in favor of it.

Indeed, research produced by either method (*c*) or method (*d*) is possible and tolerable only because we take teaching lightly and hold it in little honor. I should like to explain, for the benefit of the many who do not know, just what is involved in the labor of a teacher who can properly be called a teacher of the first rank.

I am extremely suspicious of colleagues who claim that they can teach at the college level without special preparation for each class as it comes. Exceptions may be made, naturally, for elementary courses in mathematics and the languages. In all other cases, the first-class college teacher wants about four hours of preparation for every hour he will spend in class. Two hours is the absolute minimum. Less preparation suggests that the subject is not being taught at a mature level, or that the presentation is ill-arranged and ill-

purpose of a student is research, he should not be advised to enter graduate school today. We should explain, also, that while there are a certain number of exceptions, the *only sure way* to promotion, tenure, and such rewards as the profession can offer is to engage vigorously in research and publication. Advisees should be instructed to disregard any and all statements to the contrary, regardless of the apparent authority by whom they are made. However mouth-filling they may be at the time, they do not correspond to what has happened.

expressed. These figures are appropriate to courses already familiar to the instructor; new courses demand much more. It is obvious what these statements mean if they are coordinated with the information that twelve-hour teaching schedules are common, and nine-hour schedules somewhat rare; in addition to which, we should mention that faculty members have duties additional to teaching.

Inasmuch as these additional duties are often time-consuming to a degree, it is made plain that one trouble with American college teaching is simple lack of work in getting ready to teach. The man who has spent four hours on a class has had time to refresh his memory on the facts, which are both numerous and complex if the subject is fit to tax the very substantial intellectual capacity of the young American. He has had a chance to look up references, and to check up on anything that worried him last time. And more than all of this, he has had a chance to recapture his zest for the material to be taught. He can go into class and put it over so that it will stick. This is very different from the clock-watching routine that is so common: no tricks of methodology will ever give us something for nothing. A college class, and every single college class, is an important and serious business. We will never do serious work until we give up the idea that a man can do it if his heart is elsewhere.

If the statements already made are true (and I am convinced that they are), it is manifest that we have paid much more dearly than we think in order to keep the research tradition alive. Expanding the frontiers of knowledge, however good in itself, costs too much if it seriously interferes with the education of American youth in a century when education is requisite to survival. There is no good in atomic energy unless we have the knowledge and wisdom to use it properly; and *the only effective knowledge and wisdom today is the knowledge and wisdom of the electorate at large*. This is largely a function of education; and education is the first and greatest responsibility of the academic profession.

II

If we are to face and solve the great problem of combining general education and higher education, we can do it only if we get at the trouble where it comes to a focus. This means that the orientation and purpose of our graduate schools must change. Instead of existing to train productive scholars, they must be altered to produce teachers. If this be accepted, certain things follow — and it is here that we come to the matter of *procedures*, against which, as we said in the beginning, there is also complaint.

In the first place, the management of graduate schools must be put on a businesslike basis. It is impossible to discern in the present conduct of graduate work any principles of government. This chaos reflects the failure of what we ordinarily refer to as "departmental autonomy." Not only do customs and techniques differ from department to department; but the major content of a Ph.D. in English differs radically from university to university, reflecting in some cases the capricious preferences of powerful individuals. Nor within these limits have the departments done well. Instances of irresponsibility, injustice, and outright cruelty are altogether too common. Since these conflict with no established rights and customs (there being none), nothing can be done about it.

We must work out some sort of constitution which will provide reasonable coordination between the work of our graduate schools and the actual needs of the teaching profession as they vary from year to year. Within each separate graduate school, we must define our principles within fair limits. A certain degree of departmental option must be retained; but every department must guarantee to the graduate student not only a well-conceived program of training, but the right to graduate on time if he pulls his weight and does his part.

Every department of graduate education should have a curriculum and a schedule.

Prerequisites to entrance must be clearly and exactly defined, and they must have a substantial

relation to the work that the student will actually do. There is no sense in requiring French and German simply because it is customary. Spanish, Chinese, and the Calculus are certainly more realistic in certain cases.

In preparing a list of prerequisites to entrance, provision must be made for the bachelor of arts who may have majored in biology, but who now wants to teach government or philosophy. Such changes of program are excellent; they are to be preferred to a narrower and more specialized preparation. But they do impose obstacles. One cannot ask a college graduate to go back and start over once again as a freshman, nor is there any reason why he should. Special work must be provided to enable such persons to fulfill entrance requirements as quickly and cheaply as possible. This means, to cite one ill that has long been outstanding, that the language departments must abandon their intransegeant and perfectionist position, and provide instruction leading to the rapid acquisition of the "reading knowledge" they hate so much, and to which they even seek to deny existence. It is earnestly to be hoped that those who acquire a reading knowledge will eventually progress to something of greater cultural value; but it is a fact that German is, for perhaps ninety percent of our graduate students, a tool they use in order to study something else.

The length of the graduate course must be defined. I imagine that this may vary from department to department; but it is feasible for every department to ascertain and state the length of time it needs in order to prepare a competent bachelor of arts for the responsibilities of an instructor. This is done in medicine and in the law. It is also done at West Point and at Annapolis. The reason it is not done in English, chemistry, and history is simply because circumstances have never combined to force us to do it.

These circumstances now appear to be combining. If there is any sincerity in the talk of "attracting" able young men into the profession, we must put ourselves into a position to be specific with regard to the cost and length of the professional training required. It is fatuous to suppose that any really far-sighted young man (very rich young men being excepted) will sign a blank check for graduate work that may take two years and may take six. A certain number of admittedly able young men do just this; but proof is lacking that they are farsighted.

In choosing the length of the graduate course, academic perfectionism must be brought into some sort of reasonable correspondence to the social and economic realities.

No one wants college instructors who are ill-informed and underprepared. The course must be long enough to produce men of substantial learning and accomplishment.

On the other hand, there are limits beyond which formal education is not profitable. The tendency of our graduate work has been to lengthen. It is now protracted beyond anything that can be construed as desirable.

Most of us must begin to earn a salary rather early in life; and even if lucky enough to escape the absolute necessity of this, we are bound to feel the onus of our social customs, which make a close connection between earning and self-respect. From the standpoint of his position in the community, we do a positive disservice to the teacher by postponing his participation in adult life. And quite apart from the community, there is very little doubt that a prolonged adolescence stultifies the personality. People need to assume and discharge responsibility earlier rather than later. No amount of extra training will compensate for the harm done to character by a training period that is too long.

Biology enters this picture also. Young men and young women want to marry; and they do marry regardless of the pressures against it. The spectacle of the married instructor with a thesis hanging over his head does not reflect upon the unwisdom of the young. It reflects upon the sloth and cruelty of our system. Who wants to suggest that celibacy is part of the price one must pay for academic satisfactions? And what evidence is there that celibates make better rather than worse

teachers? If we can be sure of anything, we can be sure of this: any profession that forbids a man to marry at twenty-five or twenty-six will be avoided.

And from the academic point of view, how are we going to explain this: if the married instructor really needs to finish his thesis before he is competent to hold his head up in college circles, it certainly looks as though we were guilty of employing persons not properly prepared for their work. We cannot get out of it by saying that the instructor "takes less responsibility," for this is patently not true. If we give him a course at all, we give him the same chance to do good or harm that is open to the head of the department.

All of these considerations suggest that the length of the graduate curriculum be curtailed rather than extended. In specific terms, I am suspicious of the department that cannot turn out a good college instructor in three years of graduate work. This means that we must be much more efficient than we are today, or standards will suffer. But the field of knowledge can be defined; courses can be designed to cover it; and courses can be supplemented by such other experience as we consider requisite.[2]

With regret, I believe that the institution of the doctor's thesis will have to be abandoned. It is simply too expensive, and the date of its completion is altogether too uncertain. These are the real reasons why so many theses are trivial: the cost of travel and research is very great; and scholarship aid is a drop in the bucket.

Recognizing the nonvalue of most theses, at least one university has experimented with a magnified M.A., defined as a "teaching degree," the doctorate being reserved for "mature production." This is on the right track to the extent of attempting to do something about the thesis; but it has serious faults in practice. Persons holding the super-M.A. find themselves handicapped by comparison to persons who may hold a doctorate that probably was as easy to get as the super-M.A. There is also a serious objection to submitting oneself to the jeopardy of examination after mature achievement has been arrived at.

In this connection, it is well to point out with emphasis that the recognition of mature achievement is already provided for by the honorary degrees. It is presumptuous for any faculty to claim the right to test and censor the production of college teachers. And this solution to the problem is outrageous to the extent that it seeks to assert and maintain the fictional *superiority of research to teaching*. The title of "doctor" ought to be awarded to anyone who can be certified as competent to teach at the college level. There is no sense in a Ph.D. that represents longer training and greater expense than the M.D. Mature achievement stands on its own feet; it needs no accolade from the graduate school.

In suggesting that we give up the thesis, I feel that we undertake an obligation to invent and perfect some kind of graduate experience designed to affect the personality and character as the thesis does (but only at its best). I do not know at this moment exactly how this can be done; but I can imagine nothing more important. The quality of mind at which we aim is that sixth sense by which one separates the specious from the sound and the plausible from the veritable. The qualities of character are patience, thoroughness, judgment, and a love for the truth. It will take great ingenuity to develop techniques aimed at these desiderata, and to fit these into the *sine qua non* of a stated schedule. Experience with tutorial work at the undergraduate level furnishes us with a starting point, however.

And the graduate preparation of college teachers should, finally, include direct instruction in the methods and techniques of teaching. I do not

[2] I have known these suggestions to be greeted with holy dread, as though they compromised some transcendental imponderable of scholarship. Anyone, however, who took George H. Chase's course in Classical Art and Archaeology knows what I am talking about. When the Dean closed his notebook at the end of the sixth semester hour, we were solidly grounded in the field at a mature level. Nor did we fail to get that impulse to independent thought and that procedure-in-judgment which is so often and so foolishly alleged to result both automatically and exclusively from puttering about on one's own.

want this statement to be interpreted as a suggestion that candidates should be required to take eighteen hours of Education. Much less would I tolerate the assumption of administrative control by any agency emanating from any existing School of Education. I feel this way because, like most of my colleagues, I honor the contribution of Education to school-teaching, but have yet to see any evidence that it has arrived at the point of being more than moderately helpful to the college teacher. I should like to point out that I have had rather ample opportunity to observe some of the country's Arch-Educators at work. My objection to their interfering with college teachers is twofold.

In the first place, Education too often puts itself in the position of conspiring against the value of the immense corpus of knowledge requisite in the equipment of the college teacher. As a result, the intellectual capacity and the mental acumen of undergraduates is always underestimated. If this goes on very long, college becomes just another high school.

And secondly, I am not convinced of the value of the ponderous and allegedly objective methods the Educators would have us use. Most of these seem to me to represent a desire to dodge responsibility: unwilling to take the onus of making up your own mind, you put something in the works and blame the machine for the answer. There is no proof the answer is right.

Having made these objections, I wish to state most vigorously that neither of them seems to me to be permanent or fundamental. The breach now existing between "the subject-matter departments" and the Schools of Education is deplorable. College teaching will never become what it ought to be until we bring our Schools of Education to maturity.

III

We come, now, to the question of ways and means. There are two ways to bring these changes about. It is possible for the incumbent graduate schools to alter their point of view. Being as familiar with the academic mind as the next man, I do not think that they will; but I feel that I ought to mention it to avoid offense.

The real solution is another Johns Hopkins, this time designed to train teachers for our colleges. Such an institution could turn out men who were *so much more competent than any others* that there would be no question that employers would prefer them. In an imperfect world, this would have a remarkable effect upon all other institutions.

* * * *

These remarks, suggesting as they do a substantial adjustment in the outlook of a great and powerful profession, naturally expose one to the accusation of temerity. These are times, however, when we must think in large terms, or drift to destruction on the tide of events, mulling our little thoughts as we go. The ills of our profession will not be cured by doing nothing. We are, indeed, at the end of an era. For at least one hundred years, inaction has been (in England and America) synonymous with safety. Doing nothing, one could be sure, would result in retaining what one already had; or with ordinary luck, in being able to settle on a higher market. This is true no longer. A proper suffix to every suggestion made above would be that pregnant phrase *or else!* If we show an incapacity to do what ought to be done, America will have crossed the great divide.

Who Should Teach Communication?

BY PORTER G. PERRIN

THE WORK of helping young people to convey their information, opinions, desires, hopes, fears, and fictions to others belongs so obviously to the realm of general and unavoidable education that neither its need nor its importance can be debated. The means to attaining this simple aim can be debated, perhaps endlessly, and there are various ways of satisfactorily pursuing the goal. In one means now being widely tried in schools and colleges oral and written communication are approached as complementary modes of a single activity directed to furthering the interrelation of the individual and his environment.

Perhaps we are opening a new academic road; perhaps it will prove a dead end. But while we are on it we need to exercise what faith we can muster and back it up with good works. Any new development must take its start from existing knowledge and practices and ideals and, as even the atomic furore shows, it will partake of the good and the evil in that present and even more of its mediocrity. To those of us who are somewhat gray or bald, the actual procedure in what we call communication courses will seem to be a combination of at least two sorts of activity that have lately been pursued separately. To the extent that our goals and methods are proper, this view will to a considerable degree disappear and a synthesis, more easy for younger minds than for us, will take its place.

At any rate there is not at the moment any special provenience or training for teachers in courses in communication. Those now working in them have come from various academic departments and adapted themselves as best they could. Often their specialisms still pursue them. Looking toward the future, we might as well talk in terms of an ideal as far as we can now visualize it. *What sort of person should the typical teacher of communication be and what may profitably be his general and special training?* Some of course will have to be more specialized than others, but upon the work of the *typical* teacher depends the general success or failure of this or any other educational attempt, and it is about this typical teacher that I would like to offer a few suggestions.

HIS PERSONAL QUALITIES

In contrast to the typical subject-matter departments, like history or chemistry, in which naming or defining the scope of a course almost automatically defines its principal content, a course in communication is the resultant of at least three main and variable forces — the nature and needs of the students who will take it, the aims and intellectual climate of the institution, and the staff that teaches it. It is almost unavoidable, whether or not it is desirable, that the staff is the determining factor: the course will depend on their conception of the other forces, will represent their faith and reflect their personalities and training. No syllabus or textbook or lectures, however brilliant, will do the job. There is no automatic or very satisfactory machinery for selection of a staff. Yet it is obvious that in our work, that involves such close personal contact with students and such potential influence upon them, success depends to a marked degree upon the personality,

temperament, and philosophy of the staff members.

A certain number will drift into the field, as they do into our major programs, because they were born in an English-speaking country and this seems a line of low resistance. We shall with difficulty avoid our share of the ineffectual and the dilettante. We shall also draw some martinets and some who deserve to be called pedants, but these cannot be typical. The very uncertainties and ambiguities of our work tend to discourage the uninterested, though the recent preoccupation with historical scholarship and various reputedly scientific techniques has offered a seeming refuge to the fainthearted. Generally, though, our staffs belong to more volatile types and should continue to. We want people with energy and originality and of various temperaments and interests.

Our difficulties often come from the defects of our virtues, from those who dramatize themselves instead of their work, and from those who are insistent on particular and individual solutions to complex problems. We are likely to be dogmatic individualists, even when advocating cooperation. Our divergencies make for activity and often for excitement but are frequently a handicap to group action. The compromises required just for the staff to get along together often let the middle-of-the-roader seem to win and the struggle itself makes for discomfort and even factions, to the bewilderment of our colleagues and the puzzlement of our students. Now that we are being drawn out of our private preserves to play a part in general education, we shall need to cultivate even more the qualities of reasonableness and cooperation, to have a perspective upon ourselves that should lead to modesty, though I hope not to humility.

Now the young man or woman we want to teach communication should have this positive personality and this perspective. It may be that we shall continue to draw those who would prefer to be lawyers or actors or journalists or novelists. If they escape a sense of frustration — and well-ordered departments plus vicarious satisfaction in the work of their students may save them — they may bring an understanding of the communication activity no amount of training can provide. At any rate a different personality is required to stand between students and their prospective publics than to stand between students and a firm body of subject matter. Our teacher of communication needs to be himself a communicator and to have also the qualities of a good chairman or editor — an odd blend of originality and bossiness with self-effacingness and sympathetic insight. We need neither the prima donna nor the promoter, but men and women who can see the pleasure and profit in mediating between speaker and listener, between writer and reader. This editorial quality may be rare but it does exist and our work should so conspicuously offer it outlet that people with it will find their way to us.

To a certain extent, then, good teachers of communication must be born as well as made — just as newspapermen and social workers cannot become really successful by dint of training alone. Their success will depend on a basic interest in people and in an activity. They must be able to provoke intellectual alertness in students and know how to channel this to others than themselves, to those who might conceivably be profited or influenced by it. They must be interested in the growth of young people and in half-completed work, the sort of person who, facing a table with a manuscript and a magazine or new book on it, will ordinarily pick up the manuscript — just on the chance that it may reveal something promising.

Since he will be mediating between students and their publics, some experience of the publics is important for a teacher of communication. He should like to and be able to speak and write himself, not necessarily scholarly articles but for some specific public. A year or two of practical experience in community affairs or in one of the regular channels of communication or in almost any job requiring contact with people may be more profitable than the same years in college. This ability and this experience would be the best guarantee that our work would avoid the minimum and the routine. It might keep us from be-

coming too easily academic, even in an academic setting.

Perhaps this sounds like wasting too much talent on a generally required and generally freshman course. But it is the one course in the curriculum we can be absolutely sure will be of benefit to all students. It deserves to be made a career in itself or a stepping stone to more advanced and specialized work of the same sort so that it can reasonably attract the proper talent to it. A group of people with the fundamental interest in communication and gifted with a normal degree of cooperation would not only be able to lead and persuade students to paths of rectitude but could develop under competent leadership into a *reasonable, cooperative*, and even *happy* staff — the prerequisite for a live and fruitful course.

HIS GENERAL EDUCATION

The distinction between general and special education is rather arbitrary. We can perhaps distinguish between the skills and knowledge that a teacher of communication must know, that he will be conscious of and perhaps directly apply in his actual teaching, and the knowledge that he needs just as badly but will use variously and indirectly. In the areas under discussion anyone would have a choice of numerous courses and fields, and obviously would continue his development throughout life. It is perhaps one of our failings that we want to "take a course" in anything of use to us, when we might do much by our own efforts. But if budding teachers are to be around universities, they might as well take some subjects that contribute to their interests and at the same time to their future work, and so profit from guidance of mature teachers. The distinction between general and special education as here indicated has little more than accidental relation to undergraduate and graduate work. What he misses in the former he should pick up in the latter.

Under the heading of general education I am including natural science, psychology, the American scene, literature and the other arts, and philosophy.

1. *Natural science.* Of course a teacher of communication needs to find out as much as he can about the nature of the world and of man. People of the sort we have in mind are most likely to resist an initiation into the natural sciences. Our prospective teacher needs to get beyond first base in a science or in some program of general science for several reasons: for what he will learn about some facet of the universe that has been minutely studied and speculated on; for the idiom of scientific discussion; for the distinction between fact and interpretation or hypothesis, more clearly seen here than in the other branches of learning; for a glimpse of scientific method, of the honest tentativeness with which a true scientist holds his ideas and the readiness with which he discards those that are outmoded; for the implications of this study for his own beliefs; for emancipation both from too great veneration for and too great fear of the fruits of scientific activity. All this does not come from the usual elementary courses taken for the typical college "distribution requirement." That is why the work should be carried far enough to bring the student into contact with at least one mature worker in science. He should take any science that appeals to his curiosity or in the worst case the one that he dislikes the least; but he should go far enough in it to feel the challenge of the work.

2. *Psychology.* Psychology might well be included in the specialized education, since we are coming to realize that language is such an intimate part of a person's make-up that it cannot be understood without knowing *him*, and since effective communication depends to such a degree on healthy personal and social attitudes. Although academic psychology is not yet the fruitful subject it will sometime be, a teacher of communication can profit from some systematic work as a background for his own observation of people and for intensifying his sensitiveness to their needs. The aim is not to learn how to win friends and influence people in any selfish or sophistical way, or how to discuss well-known facts of life in a polysyllabic jargon, but to attain a sympathetic

insight and to find ways of capitalizing on natural human powers. Honest introspection will help much and even some "literary psychology" from fiction and other arts. We don't want a pack of amateur psychiatrists or even psychoanalysts, who can do untold harm. But a teacher of communication does need to recognize some of the commoner symptoms of frustration and maladjustment and blockages in straight thought and action. Fortunately not many of our students are actually psychopathic; they probably show about the degree of maladjustment we their teachers do. The preoccupation should not be with the abnormal so much as with the typical functioning of what we may still for convenience call the mind and of ways of setting up conditions that will allow its fullest exercise.

3. *The American scene.* Our prospective teacher of course needs to learn everything possible about the American scene, not as detached from the rest of the world but as a part of it. He needs it to evaluate and interpret his own observation and that of his students, to suggest areas for them to explore, and to understand the publics they are to reach. It will ordinarily be easy to guide him into courses in American history and literature, especially of the near present, into American government and foreign relations, and into whatever courses in the social sciences are so taught that they can illuminate the world in which he lives and that can develop a feeling for, a way to understand, the somewhat different world in which his future students will be living.

4. *Literature and the arts.* The teacher of communication needs to be at home in current writing, literature liberally interpreted, and especially in the factual types. He needs also those writings from the past that he can read with pleasure and profit in this self-consciously troubled age. This reading should not be confined to literature in English but should include others, either in the original or in translation. The present move toward more broadly based programs in literature in our colleges will furnish future teachers a wider range of reading important for its own sake. But he needs especially the recent literature, of the past twenty years or so and of the current season, in part for its idiom and even more because it will approach the age old problems in the context of a world with which he is familiar.

The same may be said for acquaintance with the other arts, especially music, painting, drama, and architecture. Communication is of course the handmaid of all fields but at its more complex levels at least its closest affiliations are with the other arts. Our teacher needs to know and understand them for their own sake and for what they show about the reactions of sensitive people to their world and for practice in the art of criticism we share so conspicuously with them. The arts can reinforce our own work and keep it from being too narrow, and teachers of the future will come to work more actively with them. If possible a prospective teacher should attempt to practice in one or more media besides words.

5. *Philosophy.* Perhaps even less a consequence of academic training is a concern for the philosophies that are inherent in men's decisions, whether they know it or not. A philosophy too tightly held becomes dogma and a narrowing influence, the enemy of good teaching. But a knowledge of the molds into which men's thought tends to fall, ranging from materialism to mysticism, with a modest faith in the one that best suits one's experience and ideals and temperament, is one way of bringing unity into one's thinking and is necessary to give firmness to the work of anyone who deals so intimately with the experience and thought of others. The study should not be esoteric or snobbish and for meeting young people should be realistic, a sort of naturalism that sees human ideals and values at their reasonable worth. Books like Irwin Edman's *Four Ways of Philosophy*, D. H. Parker's *Human Values*, Arthur E. Murphy's *The Uses of Reason*, all fruits of recent reflection, represent the approach I would recommend. At any rate, a teacher of communication should read one or two books of philosophy a year and between times examine the ground of his own way of thinking and the basis of his

ideals. This study should help him to live less in his emotions and perhaps lead to greater intellectual detachment at the same time that it increases his understanding and sympathy for the thinking of others.

6. *A specialty.* As an undergraduate our prospective teacher will have to "major" somewhere according to the present fashion of colleges and this might be in any department that in his institution can challenge and inform him. If medical schools can say and mean that their students can major in any department, we should be able to say so too. Any field that can exercise his mind by leading him to stimulating material and giving him practice in reflecting upon it and that will also allow him to keep his interest in communicating with others alive will serve. A person who as an undergraduate majored in biology or political science and still kept the urge to convey his knowledge to others and to help others convey theirs would be a proper tonic for the staff of a communication course and would help keep the work from slipping into a narrowly conceived or merely traditional program. A large staff should as a matter of policy include some instructors with backgrounds and perhaps with futures in fields other than English and Speech, and a small staff would do well to borrow part of the time of some men in other departments. If they have kept alive their interest in communication, they will not have too much to learn to take their places in the work.

All this is a rather clumsy way of saying that the prime academic requirement for a teacher of communication is a genuinely liberal education in so far as it is available in our colleges today. It could be argued that this same training would be proper for all teachers. But though teachers in any department would be *better* for such a general background, a teacher in communication would not even be *good* without it. He will make more pervasive and continuous use of his general education than most can. And his early academic work should be merely the foundation of a continuing broad intellectual development that no superimposed specialism should be allowed to interfere with.

HIS SPECIALIZED EDUCATION

Now let us look briefly at what might be called our paragon's specialized training, what will be in the forefront in planning the activities of his students, again without distinguishing between undergraduate and graduate levels. In many fields training brings about a relative uniformity in attitude as well as characteristic uniformity in approach and methods of work. (Think of the historians or physicists you know.) This is not, to date, true in the communication area and I hope it will not become true; but there are some studies that seem necessary as a background of the work. They may be grouped under four heads: the channels of communication, rhetoric, the language, and specific skills.

1. *Channels of communication.* The teacher's prime need is a thorough knowledge of and as much practice as possible in the various modes of communication, oral and written. These include the *personal* forms of conversation, letters, and so on; the *academic* forms of recitation, talks, tests, examinations, course papers; and the *public* forms of spoken and written utterance, from extracurricular activities of students to speeches, radio, magazine, and book types.

The personal forms are principally the work of the secondary schools; the academic forms are properly the responsibility of all college departments, though the communication course can help in establishing norms and in giving practice. The public forms of delivery and publications are more distinctly our work — certainly no one else will care for them and they are an important part of general education. A teacher of communication will need to acquire a lively sense of various publics involved — friends and other individual contacts, teachers and fellow students, and the various audiences of public affairs from prospective customers and fellow diners to readers of general and even specialized books and articles.

He needs to know the channels of communica-

tion in the United States: newspapers, magazines, books, radio, motion pictures, advertising; to know their typical patterns and techniques, their legal privileges and limitations, social restrictions, and to know them as institutions, both as industries and as arts. This may sound a grandiose background for teaching freshmen, but I know of no other way to keep our work from slipping into the routine and purposeless or at least to the exercise level of theme and classroom speech. The practice pieces of students should be of the sorts that are required in college or in what we refer to in contrast as real life. The teacher needs full and somewhat systematic acquaintance with the channels of communication and the publics they serve.

2. *Rhetoric.* Besides this knowledge of current practices, a teacher needs — though not necessarily for immediate transmission to his students — an understanding of rhetoric broadly interpreted, which is really the generalizations suggested by the better instances of communication in our time. There is danger of this study in college being too historical (too Aristotelian) and academic, but familiarity with the activities of composition and criticism, with the various oral and written styles, as well as with the teaching of the past, is needed as a broadening study in itself and as a background for evaluating new ideas. But this work should not be allowed to get far out of touch with practice.

3. *The current language.* The teacher of communication needs an understanding of the current English language, its diversity, its resources and limitations. This should include an understanding of the sources of language in social habits, the various sorts and levels of usage, a realistic basis for standards to be encouraged, and the psychological and social urges and barriers that affect a person's language. It would include semantics, in perspective, as a phase of language study rather than as a panacea, made positive rather than negative, keeping always in mind the grand truth that a person with definite knowledge or opinions can find, if he seriously wants to, a medium in his language for conveying them accurately to anyone who may appropriately receive them. It is especially necessary that teachers in communication courses see their language as an opportunity, and as a simpler and less disciplinary study than most textbooks and courses make it.

4. *Oral and written techniques.* In addition to the basic aspects of language a teacher of course needs a knowledge of its very obvious and important but more superficial aspects, the qualities of voice and the conventions of written discourse that we are likely to mean by "skills." A teacher needs, as we all will agree, enough information here to judge effectiveness and appropriateness, to discriminate qualities accurately so that some can be singled out for disapproval and improvement and others for praise and further cultivation. He should know what is common to both oral and written presentation and in what respects they differ. (And the differences are fewer than the similarities.) This knowledge is not the climax of the teacher's training but something that he should meet early in his career and build on throughout, filling in details as he goes along.

Many of these facets of training can be gained in informal ways as well as in academic programs. But since degrees are at the moment so important for promotion and academic security, we should face squarely the implications of demanding them. As things now stand an orthodox doctor's degree in English is a positive handicap and one in Speech little help for a future teacher of communication. It is easier to get a man — unless he is very, very young — for "the eighteenth century" or the history of the novel or for dramatics or speech correction than for teaching a general course, so great has our specialism become. Although good teachers say it takes them from three to five years to recover from their doctorate, many Ph.D.'s tend to think they can step right into an elementary course without any particular preparation. Actually they may be so closely specialized and so out of touch with the world of general affairs that they need a great deal of preparation.

There are two methods of remedying the situation: either to change graduate work, giving it a

more general and functional base, recognizing teaching as well as research as its aim, or to stop requiring graduate degrees for promotion in our area, as some institutions are doing. It would be better to adopt a positive policy here, to drop the degree requirements for good reasons rather than from force of circumstances. A teacher in communication courses should be able himself to communicate to a general public, to compete with others in some of the established channels, not necessarily or even chiefly in academic channels unless he so chooses. The sort of paragon I have been intermittently describing, with a natural aptitude and interest and nurtured with appropriate but not extreme training, should be able to meet such a requirement and so bring satisfaction to himself, valuable experience to his teaching and at the same time give his institution and department the kudos they demand from their younger members.

SELF-EDUCATION

Other departments than ours suffer from excessive academicism and a good college teacher in any field has to do much to educate himself. Our teacher of communication will have to strive especially to keep in touch with the nonacademic life of his time, for so much is happening daily that is grist to his mill. He will find its whole intellectual life and much of its practical activity bears directly on his work. Again I may seem to be exaggerating a background for teaching elementary courses, but not all communication courses need to be elementary and anyway it would be better for us for a time to aim too high rather than as we usually do too low. Our great and first need is to get away from the negative and disciplinary approach, to relegate that necessary work to its proper rôle as means rather than end. The primary means to this development is a more broadly trained staff and one that continues to grow.

There will be no end to the professional or near professional study a teacher of communication may do. There is of course the group of professional or scholarly journals in our area. There are the trade journals of the communication fields, *Editor and Publisher*, *Variety*, *Printer's Ink*, and so on, which furnish information and insight into these channels and how they work, both their ideals and their far from ideal practices. There are documents like the reports of the Federal Communications Commission that are useful for evaluating actual practices. There are books on communication, like Rudolph Flesch, *The Art of Plain Talk*; Wendell Johnson, *People in Quandaries* of last year; and the recent book on the Medill, Patterson, and McCormick dynasty. Our teacher of communication could even have read *The Hucksters* for professional reasons and with a little reflection make professional as well as social use of it. From works like this the possibilities fan out to the publications in all fields, putting first those in literature and the presentation of facts and speculations on social problems.

This is the sort of person I would like to see teach communication in college, and I believe similar qualities and experience would be appropriate for the other school levels. If we had more teachers who approximated this picture, we would have fewer jurisdictional disputes, we would be able to pitch our work higher, and we would deal more effectively with general as contrasted with academic communication. I would like to make additional stipulations, but today so few attain even these that they must be considered an ideal, one of the ideals. Such a teacher could do much to reanimate the communication activities in their academic setting and make a positive contribution to general education. He would have a pretty good time himself too, and partly for that reason might lead his students to effective and perhaps lasting habits of communication.

Consumer Mathematics and Liberal Education

BY LUCIEN BLAIR KINNEY

PROBABLY many readers of this journal do not have the privilege of beginning each day with Will Connolly's column in the Sporting Green section of the *San Francisco Chronicle*. This justly celebrated column has a refreshing point of view, and an uninhibited style. Connolly's simple and direct approach frequently reveals some aspect of a problem that might be overlooked by those on a more pedestrian plane.

I mention these facts because I wish to preface my own remarks with a portion of one of his columns from last November.

IF YOU CAN'T DO MATH IT'S TOO BAD

We never thought we'd see the day when the emotional sport of schoolboy football would be reduced to mathematics, but here it is.

Baseball long has been a bookkeeping sport. A fan worthy of the name always has at his finger tips such recondite items as 2.31 PRF, 74 RBI, .986 FA, and .299 BA, which appertain to pitching, batting, and fielding performances by individual heroes. Baseball nuts are a race of pencil and paper CPA's, and they aren't happy unless they can figure decimals down to .0001. Baseball is geometrical in pattern, and much more exact and true to the laws of high school physics than the rather undisciplined hysteria of football.

In the past, when a Joe took his Josephine to a football game, neither party bothered his or her silly head about the boxscore or yardstick. All the happy pair wanted to know was which side won, who scored the touchdowns and other more obvious facts; then left the stadium for dancin' with Anson before the gardenias he bought her turned brown at the edges. Not one seat holder in a hundred concerned himself with the fine print in Sunday morning papers giving yardage gained by passes completed behind the line, average length of punt returns, net yards by rushing, by passes, number of fumbles recovered by, etc.

But now schoolboy football is blossoming forth with a national clearing house of statistics almost as awesome as those of the Federal Reserve Bank. Unless a citizen is up on his arithmetic, he cannot intelligently enjoy the game any more. Ourself, we're weak on arithmetic — always were — and are finding it progressively difficult to discuss football without throwing around impressive but inconsequential statistics, such as Timberlane of Rochmond being sixth in pass interceptions with 6 for 120 yards, and Tidwell of Alabama Poly being seventh in punt returns with 21 for 247 yards. You don't say!

The National Collegiate Athletic Bureau, which collects and disseminates these wonderful items from New York, serves a useful purpose, we guess, in that no school is left out. We cannot think of a college that has not some claim to fame, be it Spearfish Normal or Kings Point (wherever that is), in kickoff returns, pass interceptions, drum majorettes who fumbled batons; number of dogs on the field; number of field goals missed by left-footed kickers, number of field goals made by right-footed kickers, number of old grads who barked shins finding seats in Row 72, average life expectancy of a fifth of Three Feathers, passed around by the Class of '23, Michigan; by the Class of '28, Southern Idaho Mines; in 48 degrees temperature, in 60 degrees and so on.

Behind this light-hearted complaint, it seems to me, are several serious implications important to this discussion.

One is that the increasing precision of modern life is not limited, as we have supposed, to business and technical problems, but extends to our leisure activities as well. Since a large portion of the daily paper is concerned with these leisure situations, may we not assume that this is some measure of its importance in daily living?

A second implication is that many values previously thought of as incidental may well have developed into primary values. We have long used batting and fielding averages from the baseball records incidentally as exercises for developing

skill in percentage and decimals. Connolly says we need decimals and percentages to appreciate football. This is still another aspect of modern life, in other words, that mathematics can make more meaningful and richer.

Connolly is not alone in this point of view. We have for comparison the report (soon to be published) of the Fourth Humanities Conference, held last May (1946) in Santa Barbara. The purpose of this conference was to study the place, in liberal education on both the secondary and college level, of each of the great subject areas.

The organization of the conference was particularly effective and interesting. Basically it was made up of committees, one each for the fields of English, foreign languages, mathematics, science, and the social studies. The mathematics committee included Dr. Harold Bacon of the Stanford department of mathematics; Dr. Lucien Kinney representing the School of Education; Harriette Burr, President of the California Mathematics Council; Harriet Welch, teacher of mathematics in San Francisco. Each committee, well in advance of the conference, drew up a statement of the contributions the field should play in liberal education, and recommended modifications in procedure desirable to that end.

This report was duplicated, presented, and discussed in a three-hour session of the whole conference. Revisions were suggested, the committee met and acted on them, and the revised reports were placed before the whole group, discussed, and accepted or rejected. As it stands, the report represents those views on which agreement was reached. Following are some excerpts from the report:

> Society expects the liberally educated man to understand all phases of an issue before he reaches a decision. The citizen or his representative votes on the old-age pension, or on price control. The consumer locates a dwelling or invests his savings. As citizen and consumer the liberally educated man needs experience in locating and interpreting the quantitative aspects of his problems. Yet the typical curriculum of today provides almost no experience in one of the most potent factors of a decision, namely, quantitative interpretations.
>
> Again society expects its cultured man to have at least an introductory insight into each major field of thinking. . . . Liberal education wherever possible should broaden the appreciation and interests of the individual. The beauty and power of mathematics, the satisfaction that comes from solving a problem, the intellectual enjoyment of an exercise in logic have a real meaning in the life of the liberally educated man. The means by which mathematics can best make its contribution to liberal education is one of the major problems of today's schools.
>
> I. The Need for Mathematical Literacy
>
> 1. *Experience in Quantitative Interpretation*: . . . Today most consumer and social issues are left to the social studies, home arts, and commercial classes for discussion. It is the responsibility of the social studies to develop an understanding of the part an activity plays in the life of mankind — its historical, cultural and economic significance. The unique contribution of mathematics to this phase of liberal education, the recognition and use of quantitative data, in the study of social problems, must also be emphasized.
>
> 2. *Cultural Appreciation*: The basis for the appreciation of power and beauty of mathematics must lie in some familiarity with the various fields of mathematics. There is needed an insight into the part mathematics has played in building modern civilization, an insight into the power of mathematics to solve significant problems, and an insight into the uses of mathematics in the vocational world.
>
> II. Factors to be Considered in Program Planning
>
> [Here are considered: (1) The Needs of Society, (2) The Needs of the Individual, (3) The Unique Contribution of the Field.]
>
> A. *Mathematics as a Way of Thinking*: Mathematical symbols, formulas, graphs, units of measurement, and statistical expressions are examples of devices to facilitate mathematical thinking. . . . The increasing refinement of measurement in industry, and elsewhere, as well as the extended use of new types of maps, and definition of time zones, is typical of the increased precision needed in dealing with social problems.
>
> B. *Mathematics as a Means of Communication*: A quantitative idea can pass from one individual to another without loss of meaning only if both have the ability to use or interpret quantitative modes of expression. It is interesting to note, in the literature of recent years, the growing extent to which familiarity on the part of the general public is assumed with numbers, and other symbols, formulas, charts, tables, and the terminology of counting, measuring, and defining of shapes, size, and position.
>
> C. *Mathematics in Problem Solving*: Every individual is constantly confronted with the necessity for solving problems. Problem solving is not, of course, the special province of any one field of subject matter. It is, rather, the concern of all science, and to a considerable extent, of all human effort.

. . . (however) in a problem dealing with quantitative data, the processes of problem solving are thrown into clear relief, hence the study of the processes has become a major responsibility of that field.

Several implications from this statement are noteworthy. First is the identification of consumer mathematics with mathematics for liberal education. It is clear that the conference drew no lines of distinction. This is a broadening of the concept of consumer education over a period of two decades until today the aims in consumer education embrace six of the seven cardinal principles.

Second is the emphasis on *thinking* and *communicating* as important outcomes from mathematics. In spite of our emphasis on mathematics as a way of thinking, aside from contributions such as Fawcett's, little has been done or said, in a practical way, to suggest how the consumer may be equipped with the skills, concepts, understandings, and interests essential to quantitative thinking.

Third is the importance of consummatory outcomes, recognized as being on a par with utilitarian outcomes. Here the conference is in accord with present-day thinking. Even a superficial review of the literature of the field finds ample illustration for each category of aims, thus:

1. Consummatory: Outcomes that are ends in themselves — appreciations, interests, enriched understanding.

2. Utilitarian: Outcomes that are means to other ends, leading to vocational, social, and personal efficiency.

Recognition of this duality of aims throws some light on the question of considering mathematics as a "tool" subject. No dynamic discipline can be exclusively an end in itself. Each has some consummatory values. Yet it is the instrumental values that make mathematics the root of the tree of knowledge. Fortunately it is not necessary to meet an *either-or* alternative. Both classifications are important, and possible of achievement together.

It appears, if we accept these implications, that the typical concept of consumer mathematics, which has occasionally given rise to the characterization of "dime store mathematics," has been lacking in imagination and originality. It appears that the importance of activities of the consumer are not confined to purchasing, budgeting, investing, or other utilitarian aspects of life. Recognizing that his investments must pay for our industrial expansion, and his purchasing power for our economic activities, while his demands determine what will and what will not be produced, still society demands that he have the appreciations and tastes that will direct both utilitarian and luxury production into aesthetically acceptable channels, and make him the kind of person we want to have around.

The central question in consumer mathematics is this: What experiences will prepare the pupil to use mathematics effectively in thinking, communicating, and problem solving, if we recognize that consummatory and instrumental outcomes both are important?

Rather than scan superficially the entire problem, it appears useful to call attention to a few possibilities which seem neglected, and yet show promises for the broader meaning of consumer education to which we have referred.

1. Consummatory aims should be recognized as important, and be defined and pursued explicitly as such. While, as we have noted, the importance of consummatory aims has long been recognized, the utilitarian outcomes have commonly taken precedence. Interests, appreciations, and attitudes that are important as ends in themselves cannot be achieved incidentally. Opportunities must be sought explicitly. Classroom procedures that are adapted to utilitarian outcomes are not usually adequate for consummatory outcomes. Clarity of purpose is essential to achievement of aims, whether utilitarian or consummatory.

Attention has been called, in the literature of the field, to consummatory aspects of nearly all mathematical topics. Particularly rich, however, is the informal geometry of the junior high school period. In field work in indirect measurement, for example, such outcomes as the following are possible:

Appreciation of the power of mathematics — for example, in measuring inaccessible distances.

Appreciation of the power of more advanced mathematics in increasing the economy and precision of measurement.

Interest in the instruments and techniques of measurement.

Understanding the nature of error of measurement, and the approximate nature of measurement.

Schuster and Bedford, in their *Field Work in Mathematics*, have outlined many of the practical aspects of outdoor work in geometry. It may be of interest to review a few of the procedures involved in classwork of this sort recently observed in a seventh grade.

Following experiences in constructing a triangle given two angles and the included side, the question was raised as to the distance from home base on the ball diamond back of the school to a point across the creek. Interest in this question led to discussion of possible (and impossible) methods of securing a measurement. A rough sketch on the blackboard revealed home base, first base, and the target as three points that might be vertices of a triangle, with the known distance from home to first.

From there on the activity followed these lines:

a. Discussion analyzing the problem, reducing it to a triangle construction. What measurements are needed, and how are they available?

b. Securing of the needed measurements, with improvised procedures for the angle measurements.

c. Completion of the drawings, and calculation of the desired measurements.

d. Discussion of the general application of the technique, and the nature of the instruments used in practice. The emphasis here was on interest and appreciation, rather than on development of skill and refined precision.

e. Organization of the class into teams to secure data on other selected problems, with improved instruments. (An effective homemade transit is simple to construct.)

In succeeding years, as the pupils acquire more advanced mathematical processes they are interested in repeating the measurements more precisely. An interesting sidelight is the relatively high degree of precision that is possible with a homemade transit and scale drawing, even as compared with an engineer's transit and trigonometric solution.

It is recognized that for many of the pupils there may have been instrumental values for later technical and engineering courses. In general, however, the projects and discussions were directed toward consummatory interests and appreciations, rather than an insistence on the degree of manipulatory skill essential to the utilitarian values.

Outcomes other than interest and appreciation, that seemed important, were skill in cooperative work as a member of a group, and practice in defining a problem and securing needed data.

2. Outcomes should be sought explicitly in the field of quantitative thinking. We cannot assume that classroom procedures planned around examples in a book will lead to effectiveness in quantitative thinking. We must rather have classroom discussions on significant problems, to highlight the steps in critical thinking in a quantitative situation. Only realistic experiences can show how the consumer needs quantitative thinking to discover the probable consequences of several alternative plans of action, leaving him free to choose among the alternatives.

An illustration may help to clarify this point. The state legislature was in session, and was heatedly considering the problem of old-age pensions. The topic had come up in the social studies class, but the pupils, who came from upper-income levels, rejected the idea in toto — "If the people did not squander their money while they were young they would not need assistance in their old age." They were still fussing about it when they reported to the mathematics class, and it seemed wisest for the teacher to abandon her original plans and to continue it on a quantitative level.

She first raised the question: What is the average income for families in this country? The estimates ranged from $5,000 to $3,000 — none lower. A little research showed that the word *average* needed

definition — the mean was $2500, the median $1200, the mode, $1000. It was agreed to accept the median as a good description of the middle family, and proceed to budget the income of $100 a month. How much should be set aside for savings?

It was an interesting point, that might have been distracting, that most budgets published by banks and savings institutions did not reach down to that level, though 50 percent of the families at that time were on smaller incomes. One courageous author was found who was willing to recommend a budget on the $100-a-month level. Six percent of the income was set aside for savings, to protect against loss of family income from old age, illness, death of wage earner, unemployment, etc. How should $6 a month be used for that purpose? First, a life insurance policy, straight life, for a thirty-five-year-old head of the family for something under $3000 could be purchased for that amount. What protection would this provide for hazards other than death? What would be the probable result of these hazards on ability of the family to maintain the protection of insurance?

Finally, what would you recommend the family to do?

The answer was immediate and surprising: Spend the $6 a month on leisure-time activities!

Then what about protection against the economic hazards? These should be the responsibility of the state, which (they were pleased to inform the teacher) is now proposing old-age pensions!

Noteworthy was the fact that the pupils were apparently not aware of their complete reversal in attitude and point of view. Whether or not one can approve of the final recommendation to imitate the grasshopper rather than the ant, the power of the quantitative approach is evident.

Another noteworthy fact is that an effective discussion requires skillful leadership by the teacher if it is to lead to general outcomes of methodology in critical thinking, and specific outcomes such as desirable attitudes adopted as a result of the analysis and ordering of data.

We have seen at the outset that the teacher entered the problem with a quantitative rather than a controversial question. She followed this up by calling attention to further needed data, and occasionally summarized and indicated the progress made and problem remaining. In time the pupils can assume increasingly greater leadership as they grasp the basic methods of critical thinking.

Also important to note is the classroom equipment needed for discussion techniques. The discussion would have died a natural death had reference materials not been available for the data on family incomes, budgets, insurance premiums, and the like. It would never have occurred had there not been available an interest in the legislation being proposd. Before embarking on a discussion one must provide for the availability of such materials. After a few discussions the room will be stocked with reference materials including the *World Almanac*, census reports, textbooks, maps, graphs, and current periodicals, including *Time*, *Life*, *Newsweek*, *Fortune*, and others of like nature.

3. Outcomes must be sought in the field of quantitative communication. Closely related to the development of quantitative thinking, but requiring a different approach, is the development of effective use of mathematical language. One is motivated to develop effective means of communication when he has important ideas to communicate, and is concerned with the completeness and precision with which they are communicated. The obvious strategy is first to arouse the pupil interest in some quantitative ideas to the degree that he wishes to communicate them, and then to help him acquire the mathematical techniques that are effective, and then to help him.

In a certain junior-senior high school it was discovered that certain faculty members were apparently setting such time-consuming home assignments that others hesitated to add to what appeared to be a full load. Before any reasonable adjustment could be worked out it was desirable to find out how much time pupils were actually spending in study outside of school.

The question came up in a ninth-grade class,

and the pupils suggested a survey. The question of validity was of course raised, but the pupils were confident that results would be dependable if pupils reported time spent over a two-week period in general categories with provision for "miscellaneous." The class drew up the proposal, secured general acceptance of the idea at an assembly, prepared the forms, and tabulated the results separately for boys, girls, classes, and grade-point indices. Data were secured on such questions as:

What were the differences between boys and girls in amount of time spent in study, social affairs, shows, etc?

What were the differences among various class levels?

What were the differences among the various levels of grade point average?

The results were so striking that immediately there was a desire to publicize them in such a way as to secure the interest and understanding of the entire school. It was in trying to show these comparisons for the six years of the junior-senior high school for boys and girls separately that one of the pupils, an industrial arts student, prepared one of the most interesting three-dimensional graphs I have seen. The display of the data, when finally presented on the school bulletin board, was a source of interest both to pupils and staff.

4. Attention should be given to development of effective classroom tactics utilizing newer learning aids. We are referring here not only to such well-known materials as audiovisual aids but also to others not so well known, that the armed forces found useful. Sociodrama, for example, was found in the Navy program of instructor training, and training of leaders, to be an effective teaching procedure. Broader applications of this technique are still being studied. Experience in the classroom is necessary to determine its place in promoting learning, and tactics for its use.

Sociodrama has something in common with dramatization, and with psychodrama, although it is distinct from either. It is the extension of the basic idea of both, with socially significant material. For reading and discussion of current problems, sociodrama substitutes opportunity to act out these situations, so that they take on real life importance.

As an example: In the twelfth-grade general mathematics class, the topic was installment buying. The pupils had learned a method of calculating the approximate rate of interest. They had also learned a technique for mentally securing a rough approximation. One pupil assumed the rôle of a radio dealer, the other that of a prospective customer inquiring as to terms. The customer differed with the dealer as to rate of interest he was charging; they came together when various terms were defined; the dealer explained his reason for adding to the price on the installment plan. The deal, you will be glad to know, went through. Class discussion that followed turned on the advantages and limitations of installment purchasing — should he have bought the radio?

The important thing to remember about sociodrama is that the rôles be assumed as spontaneously as possible. Nothing is rehearsed, there is no script, no lines to memorize. During the sociodrama those taking the rôles *become* the persons they are representing. The purpose of sociodrama is to make current problems more vivid and to deepen individual understanding of and concern about them. Hence there is no idea of presenting finished performances. How well or how poorly a sociodrama situation is presented will depend upon: (1) securing cooperative group feeling so that the whole class has a stake in the accurate presentation of the problem situation, (2) making sure that the students participating in taking rôles in a sociodrama have sufficient knowledge about the rôle for moderately successful presentation, and (3) using sociodrama as a basis for further discussion and learning rather than an end in itself.

About a year ago a relatively small group of California teachers, from localities in practically all parts of the state, set up a self-constituted, loosely organized Council on Improvement of Instruction. The purpose was to study tactics relating to newer learning devices and procedures, and Stanford was asked to sponsor them. A variety of

fields is represented, and a variety of levels in the secondary schools. I am afraid that as consultant to this group I have learned more than any other member. At their meeting at Stanford this autumn they selected sociodrama as a procedure for study. A presentation and demonstration were provided, with assistance to teachers who wished to try it out. Since then I have seen it in the classroom in practically every subject field, and am convinced that it has possibilities in that it gives personal importance to situations, adds lifelike details, and reveals to the pupil any lack of understanding that prevents mastery of the situation. Effective utilization of the procedure in practically all fields reveal its potentialities for making mathematics realistic. One of the most striking demonstrations was in an English class just completing the study of Macbeth. One of the boys was Macbeth, and one of the girls was Lady Macbeth. It is important to realize that there was no script, and neither participant knew beforehand that he was to play a part.

The scene represented a conversation following the lamentable incident of the Macduff children. The discussion brought to light the interpretation and understanding of Shakespeare's portrayal of Macbeth and Lady Macbeth. For some reason Lady Macbeth took the point of view that things were moving with undue precipitation, and they should slow down a bit. Later the teacher wrote me that in the test that followed it was clear that the pupils were influenced more by the portrayal than by their reading of the play.

Sociodrama, of course, is just one teaching device, with limited applications. The important thing is to learn what those applications are, and how to use it. It is a military axiom that new materials require new tactics. With films, for example, careful research and wide experience were necessary to discover classroom tactics that would produce effective results, and the Navy found it necessary to produce a film on "Film Tactics" for use in the instructor training program.

The use of current materials, such as periodicals, newspapers, and bulletin boards call for specially adapted practices, developed through experience. These have come in for special study, and some remarkably fine procedures have been developed through the experiences of council members with the cooperation of Time Incorporated and Stanford. The California Council on Improvement of Instruction has found that this is indeed the case with many other learning aids.

5. Attention in classroom planning should be directed to the over-all operational plan. The foregoing illustrative procedures might well be referred to as *tactics*. These are the immediate activities by which the general plans are implemented. The plans may require, for example, that a mathematical process is to be studied first in a concrete situation. How this shall be done — by a field trip, laboratory exercise, class discussion, or otherwise — is a tactical problem, to be decided in terms of community resources, teacher experience, pupil's interest, available equipment, and the like. Because of the variety of situations to be met, the teacher must have a variety of tactics to draw from. New teaching materials require that new tactics be developed, and old ones re-evaluated.

If we refer to the immediate classroom activities as tactics, we may well consider as strategy the general procedure which comprehends that these common characteristics have been expressed in such axioms as:

Learning is by doing.

Give attention to the whole pupil.

Proceed from the concrete to the abstract, from the known to the unknown.

Capitalize on the present interests of the pupil.

Strategy incorporates not only the developmental sequence of learning activities, but also the content, handling of supplies and equipment, and utilization of learning aids. Any strategy is sound that is based on a valid psychology of learning. The writer recently observed a class undertaking the study of percentage, through the use of the bulletin board, newspapers, and other periodicals as well as the textbook, following these steps:

The pupils brought newspapers to class, and

picked out five articles each, containing reference to numbers. These were read and discussed.

Several articles containing percentage were given special attention.

These and other articles were cut out for the bulletin boards. As the number increased, a committee was chosen to select and arrange the display.

The usage was critically examined, giving direction to the theoretical study of percentage.

Study of the text was begun while continuing attention to the current periodicals.

As a summarizing activity — how is percentage used in your favorite activity?

The relation of tactics to strategy may be seen if we raise these questions which would be of interest to any teacher who wished to follow this general strategy:

How were the pupils interested in bringing the papers to class for the discussion?

How was the bulletin board managed, in order to make it economical as well as effective?

How was the textbook utilized, and the relationship to the current materials maintained?

How were the final reports handled?

These questions reveal the analogy to military science which recognizes these axioms:

No strategy is sound unless it is based on sound tactics.

New materials require the development of new tactics.

It appears, then, that in education as in military science effective procedures depend upon an effective operational plan, which has three major aspects: objectives, strategy, and tactics. Over a period of two decades, educational objectives have been the major focus of our attention, somewhat to the neglect of strategy and tactics. In a period when our democratic way of life was threatened by economic forces from within, and by totalitarian forces from without, it was perhaps natural that we should be preoccupied with the purposes of education in our society. At times, however, there has seemed to be a tacit assumption that if the teacher understood clearly the purposes of education in general, and her field in particular, the rest of her procedures should follow as a natural consequence. Nothing could be further from the truth.

A better understanding of the psychology of learning of late years has given new impetus to considerations of strategy. At the same time, new learning aids have necessitated that some attention be given to tactics. A definition of the product is not enough; if the beginning teacher is not equipped to achieve the objectives of education as she has learned them, she is most likely to readjust them to a lower level of aspiration suitable to the strategy and tactics at her command.

We need not necessarily give less attention to definition of aims and purposes. The current yearbook of the American Association of School Administrators is an excellent example of what can be accomplished along these lines. But unless we provide the classroom teacher with techniques and materials to accomplish these purposes, the contribution is without value. There is every indication that during the next decade the emphasis will be increasingly in this direction, and that teacher education and classroom teaching will as a consequence be more interesting.

The Classics in General Education

BY HERBERT NEWELL COUCH

ENOUGH time has now elapsed since the publication of the Harvard Report on *General Education in a Free Society* to observe some of the effects which it has produced on the curricula of the colleges and universities of the country. The reception has not been universally favorable, for the differences of tradition, facilities, and purpose that exist in American institutions are too deep-set to yield at once to any single plan or philosophy of liberal education. It is well that this should be so, yet the value of such an inquiry is not to be discounted for that reason. Even a reaction so negative, if such can be imagined, as the total rejection of all the principles stated in the Harvard Report would have some significance, for any faculty committee on curricular matters would take such an action on one of two grounds: either complete contentment with an existing pattern of study following a careful rethinking of it or the creation of a still more satisfactory alternative. And either result would be followed by a renewed vitality in the academic work of the college.

However, it is not my present purpose to examine the Harvard Report in detail, but rather to consider in broader scope the place that the classics may occupy in general education as that term is likely to take shape in academic minds. What contribution can the classics make to the thousands of students who will never become specialists in Greek or Latin but who are seeking a liberal education on the broadest and soundest possible terms?

It is platitudinous to observe that one could not escape the influence of classical antiquity in any course within a liberal arts college even if he were obsessed with the desire to do so. Our language is freighted with the vocabulary and the thought of Greece and Rome. The terminology of the theater and of aesthetic criticism is preponderantly Greek because those fields of scholarly investigation were first explored by the Greeks and because they were analyzed with such critical acumen that all subsequent investigation has proceeded from the achievements of ancient Greece; the language of modern law and government, no less than the institutions of the country, declare our indebtedness to a Roman sense of order and administration. Nor are the avenues of research that we think modern, from biology to atomic physics, without evidences of keen and constructive thought in ancient times, limited by the absence of laboratory instruments, it is true, but not by any deficiency of mind or judgment. Sir D'Arcy Thompson,[1] a scientist whose avocation is classical scholarship, bears witness to the exactness with which Aristotle observed and recorded certain facts of marine biology, while Lucretius in his didactic poem, *On the Nature of the Universe*, has mingled science with philosophy to the enrichment of both departments of learning in the modern world. Nor would any professor of economics, sociology, or political science wish to conceal the contributions of ancient thinkers to the systematic development of his field of scholarship.

Yet this paragraph rings only with the old

[1] *Science and the Classics* (Oxford University Press, 1940), 49f.

familiar note of the classicist, who points out to acquiescent, but uninterested, ears the claims of classical studies on the attention, or perhaps the grudging gratitude, of every branch of modern scholarship. The position may be sound, but it is not likely to be productive, for neither in politics nor in learning does gratitude play any positive rôle. On a college campus the student whose debt to ancient models remains unconscious will in large measure fail to profit by the stimulating originality of his models. In the framing of patterns of study applicable to the generality of college students, it is not enough to rely passively on the universal significance of the classics, nor yet to console oneself with the handful of students who are likely to pursue the study of Greek and Latin in the original. Statistical studies have their validity, but no set of averages can alter the fact that each new student who enrolls in college must be trained to the best advantage for himself and for society. The classics must be presented clearly and objectively for their own values in a free society and not because of any inherited prestige that lingers about an ancient and impractical discipline.

The conservatism of classical studies and the barrier of time, which looms so large in adolescent minds, have evoked some criticism of the manner in which the claims of antiquity have been presented in the classroom.[2] The chasm separating instructor from student grows wider and wider, for the latter is lifted forcibly from the modern environment which he understands in its sociological impact on school, church, society, and sport, and is plunged at once into an ancient setting that seems to him distant, unreal, and nonsignificant. The instructor marshals his material to illustrate the development of democracy, art, or letters, and an aura of the superlative attends the exposition of the subject, for all that is base and trivial has been removed from the acquaintance of the instructor both by the censoring hand of time and by the selective principles of modern scholarship. Is it not more important to seek at once an understanding of the democracy of modern America than to immerse oneself in the processes of developing administration in ancient Athens?

These and kindred objections are raised by men who are willing enough to see the introduction of courses that deal with the relations of the ancient and the modern but who, as in the example just cited, suggest an alternative technique — namely, that we start with a thorough study of the institutions of the present day and work back to the originals as they existed in Greece and Rome.

It is an interesting thought and one not lightly to be dismissed. It might well prove stimulating to students of intellectual curiosity, endowed with powers of mind and judgment, if they were guided in their effort, first, to bring order out of the confusion of the present with its varied patterns of thought and, next, to pursue relentlessly an idea of government, or aesthetic appreciation, or literary criticism down the narrowing channel to its origin. It is, I know, an illuminating and mentally awakening experience to bring a student to the realization that many of the commonplaces of his own thinking were once shrouded in a mist of nonexistence as deep as that which obscured radar, or atomic energy, or the practical application of sound waves to the service of man in the form of the telephone only a few short months or years or decades ago. To wit, a child learns in a few weeks by explanation and example how to use perspective. He will delight to draw a picture of railroad tracks, fences, and telegraph lines receding into the distance and taking on an illusion of reality by converging lines denied to the literal-minded craftsman who insists on drawing parallel lines on paper just because his knowledge of the world tells him that they are in fact parallel. But the original demonstration of perspective was not so quickly reached. It is a salutary lesson for any student to learn through a survey of archaic Greek art how many decades, even in a period of rapid development, separated the first attempts to master the representation of torsion in the human

[2] Cf. Donald Hutchins MacMahon, "A New Approach to the Humanities," *Journal of Higher Education*, XVII (November 1946), 415-20.

body or perspective in architectural design from the ultimate attainment of success.

I am not sure, however, that the path from now to then, from the present to the past, will add any useful element beyond the stimulus of changed technique in classroom instruction. Nor am I convinced that the primary function of a study of the classics in general education is to illumine the present. If that objective is too rigorously pursued, the composure of achieved success will be lost in the flux of an unsettled modern world, and Greek antiquity will be taught in the light of modern views of war and peace, prosperity or depression. We are seeking rather to understand the unselfconscious work of man confronted by a task which he performs with all the eagerness of an investigator of truth. That quality is inherent in classical endeavor.

To express it otherwise, I suggest that the function of the classics in general education is to illustrate a state of creative genius which achieved great ends, and not the perpetuation of those particular ends in modern times. The scientific knowledge of Thales or Democritus is neither so accurate nor so extensive as that of the college freshman, but the dispassionate devotion to the search for truth which animated the earliest Greek scientists can still stir the most advanced scholar in his laboratory.

Nor does the value of the illustration end at this point. The attainment of perfection carries its own peril, for the continued preoccupation of man with a field where progress is denied by definition can produce only one result — recession and decadence. The aimless repetition of perfected types, whether in plastic art or in letters, will lose the glow of the original when the fierce energy of a questing mind is absent. The effort to create the pattern before erecting the structure grows too great and the skilled craftsman supersedes the student of reality. Beauty and refinement become ends in themselves, but one misses the hard core of thought and the evidence of ceaseless experimentation which produced the first instances of beauty. Pericles could say of his fellow Athenians in the fifth century: "We are lovers of beauty without extravagance and we cultivate wisdom without weakness," but that statement could not be made with equal truth of the Athenians in subsequent ages when they had inherited the achievements of their predecessors. They had example and precept before them, but they had evolved no substitute of purpose in their own day to compensate for the loss of zest with the passing of freedom.

Therefore, let the civilization of Greece be studied as an object lesson in the achievement of great ends by a people who kept a vision of perfection before their eyes and who strove for its fulfillment. And there let the emphasis rest. The purpose must be to create in our own students a similar sense of the dignity and value of the tasks which they essay, not the re-creation of specific achievements of another age. The first objective is virile and challenging in every age; the latter is forever doomed to failure.

Have I cut the foundations from the claims of the classics by decrying the values of perfection? Or to express it more mildly, would the same results not be attained equally well and by more vivid means if other fields of study were substituted — let us say, an appraisal of the amazing ingenuity of those who make typewriters or adding machines? Or to stick closer to the field of humane reflection, by a reinvestigation of the passionate conviction of the mediaeval theologians? To ask these questions is to answer them, for the indispensable component of all liberal education, as has been said in varying words by every scholar who has approached the topic with conviction and thought, is to keep before the student a constant vision of greatness. I have profound respect for men who make machines more complicated than I can readily follow. I look with awe on the systematic creation and ordering of electrical systems so uniform that in a moment of emergency, such as occurred in the hurricane of 1938, workmen from Indiana could come with trucks and equipment and help to restore the public utilities of Rhode Island. Yet the very fact that uniformity reigns in such a field is the denial of the attain-

ment of the highest reaches of greatness that must be sought in the teaching of liberal arts.

The dramas of Sophocles, the dialogues of Plato, the historical appraisals of Thucydides — these provide universals of greatness which challenge every new student, but they represent the antithesis of uniformity. They offer no precise pattern of conduct except the pattern of man face to face with reality — forever changing and forever the same.

In considering the place of the classics in general education, therefore, it is essential that we recognize the dangers inherent in a false approach if we are to accomplish our ends, for if classicism basks content in its own perfection and reduces genius to rules of other days, it will stifle initiative and thwart the free spirit of modern youth. Boys whose eyes bulge with the eager contemplation of radar or whose dearest ambition is to own a jeep cannot usefully be told that there is an essential virtue in a mode of transportation whose speed never exceeded that of the horse by land or the galley by sea. The student is quick to detect the fallacy. Nor is the rationalization confined to modern times. Xenophon, with tongue in cheek, could belittle the cavalry of his opponents in order to hearten a despondent army: "There is no instance," he said, "of any man who ever died in battle as the result of being bitten or kicked by a horse . . . the cavalryman fears two things, both the enemy and the danger of falling off his horse." And so it goes, necessity evolving its own merit by rationalization. But the true perspective emerges when we recall that the imaginative Greek allowed his mind to soar and the winged Pegasus was created to satisfy a fancy that rebelled against the restrictions of reality.

The spirit of classicism cannot be allowed to signify, as it has sometimes done, a mood of static complacency, with genius reduced to rules of procedure which reject the novel and adventurous because they refuse to fit within established patterns and categories. If variety and creativeness are themselves evil by the definition of classicism, then such a program of work will prove a positive hindrance to the growth of the liberal spirit in general education.

Enough of the perils of classicism! Let us look rather at the positive message of Greece and Rome to the modern college student. It is a record of vital thought and noble living, and it is a challenge to re-create in every environment the spirit of adventurous curiosity which lies behind the great achievements of the classical centuries. When classicism has been studied with sympathetic understanding and when the spirit rather than the fact has been grasped, it becomes the most vitalizing force in promoting and provoking original thought in the university or college classroom.

Thus the student, in a course which embraces Greek literature in translation, should learn to understand the plot and structure of the plays of Aeschylus, Sophocles, and Euripides, but he should also be seized with an awareness that these plays were written by men who in their own day were living in a spirit of high intellectual adventure. They are not relics of ancient somnolence; they are the sharp manifestoes of men who were shaking off the restraining bonds of the past and were for the first time in European society examining frankly and fearlessly the proposition that a god might be mistaken in his arrogant assumption of power, or that the conscience of a girl might have a validity transcending the laws of a sovereign. Men of high principle and low will behave in much the same way under the pressure of catastrophe or the doubts of ethical decision, and when recurring tension parallels the settings of antiquity the truth of ancient thought becomes manifest.

My illustration has been drawn from Greek literature, but the Latin course of high school or of the freshman class in college will yield the same story. The orations of Cicero cease to be somewhat florid, amusingly conceited, and tediously difficult effusions if the student is led to follow the vicissitudes of an honest but puzzled citizen through the exaltation of his successful consulship in 63 B.C., into the disappointing aftermath, with the disaster of exile, the hopeless despair caused by misfortune of tragic proportions, the bereavement

occasioned by the death of his daughter, the search for consolation in a feverish appetite for work, the cultivation of philosophy, a final sustained attack on Antony as the enemy of constitutional government, and at length the peace of death. College students are, let us thankfully recall, in general too young to know by experience the anguish of Cicero's life. But education is vicarious experience, and if the tragedy of Macbeth is within the understanding of a high school student, so also is the suffering of an historical character of antiquity. The presentation of the classics as a drab panel of the past, choking personality under a plethora of biographical details, must yield to the vividness of a personality at grips with destiny.

These are qualities of classical life which can be conveyed through courses in ancient civilization or through the literature read in translation no less effectively than through courses in the Greek and Latin languages. In fact the freedom of wider discussion and the aid of more abundant illustrative material will actually aid the process of learning.

The study of classicism, as opposed to the heavy overlay of subsequent criticism of the classics, will reveal a way of life dependent on the development of man. The Greek theory of education which included adequate training in *music* and *gymnastic*, was a picture of rounded human attainment, for the Greeks included in music all the interests of the mind, from mathematics to the memorization of the poets, and from philosophy to astronomy, while gymnastic training embraced the physical development of the body. The Romans stated their paralled picture of the rounded life in the motto "*Mens sana in corpore sano*"—"A sound mind in a sound body."

If, then, the philosophy of Greece and Rome took account of education as a full training for man, there is a disservice inherent in the analyses which separate and isolate the teachings of antiquity. Thus Matthew Arnold in his essay on "Hebraism and Hellenism" makes a penetrating analysis of intellectual society in nineteenth-century England, but out of the social and mental conflicts of his own day (and the same observations might be applied to the present) he evolves a principle of criticism that does less than justice to the achieved serenity of either Hebraism or Hellenism. Arnold finds two opposing principles — conscience and conduct, which is Hebraism; knowledge and right opinion, which is Hellenism. And each exploits the other in its own search for fulfillment and perfection.

The line of Arnold's argument is from this point clear and unobjectionable. It is simply that a balance between the two should be sought. What he did not perceive, in spite of his great attainments as a classical scholar and a Hebrew scholar, was the fact that his analysis was conditioned by the environment in which he lived. The dichotomy was of nineteenth-century England, and not of ancient Greece or of Hebrew philosophy, for each of these had in its own way attained a balanced life.

So also Professor Rose [8] argues the point in respect to the criticism of Vergil's *Eclogues* from another angle to time, when in fancy he sees some critic of the year 3000 A.D. devoting himself to Victorian literature and insisting with humorless pedantry on interpreting it in the light of his own day. Such a critic will discover a passage in which a character in a drawing room of the 'nineties sings, "I am the Bandalero," but his scholarly research will reveal the fact that on page 63 the singer was described as an honest tradesman and no bandit, while pages 123 and 258 prove beyond a doubt that he had never been in Spain and knew no Spanish. Some such illustration, couched in hyperbole, seems to be needed to give us perspective in criticism, and to direct our minds to the interpretation of an age in the spirit of its own accomplishment. The real values are timeless but the details will vary decade by decade, if not year by year.

Thus, the harmony of Hellenism is embodied in the statue of Zeus which Phidias in the fifth century made for the temple at Olympia. He took

[8] H. J. Rose, *The Eclogues of Vergil* (University of California Press, 1946), 35f.

for his model and inspiration the descriptive verses of Homer, and wrought into the statue his feeling for the blended power and grace and kindliness which the Greek sculptor recognized in the father of gods and men as a reflection of his own character at its best. And so it was that six centuries or more later, Lucian (*De Sacrific.* 11) could say of that statue: "Those who approach the temple do not think that they see ivory from the Indies or gold from the mines of Thrace, but the very son of Cronus and Rhea, brought by Phidias to earth and established as the guardian of the lonely land of Pisa."

And Dio Chrysostom, (*Orat.* XII. 412R) also writing long after the statue had been made, speaks of the emotional harmony which was produced by it in the eyes of beholders: "He is a god of peace and surpassing gentleness, the guardian of a Hellas come to peace and unity with herself . . . at once mild and dread in his serene expression; the giver of life and all good gifts, the common father, saviour, and guardian of mankind. . . . For Zeus alone of gods is named both father and king."

I have cited this example from art because it illustrates in a single statue the quality that the classics, if taught with understanding, can impart to the curriculum of general education. It is nothing less than the attainment of harmony in life.

A modern philosopher [4] has this to say of the Greeks: "Every Greek statue expresses the welding of beauty to regularity of geometrical form: every Greek play investigates the interweaving of physical circumstances arising from the Order of Nature with states of mind which issue from the urge of the Moral Order."

These thoughtful words are the recognition of the fruition of long and painstaking efforts on the part of a brilliant people in another age to attain a balanced intellectual, moral, and spiritual life, and it is further a simple statement of the fact that the Greeks succeeded in transferring their mental attainment to the products of their hands.

The most exacting manual skill cannot produce great art without great thoughts in the mind of the artist. The portrait painter who would be successful must be a man of liberal culture and penetrating judgment, for if his purpose is simply to copy his subject as accurately as possible the work can be done more quickly and effectively by a child's camera. Only if he works with a philosophy of human understanding and interpretation will he fulfill the true function of the artist.

This point of view is inherent in the best efforts of the artists of Greece, whether their material was marble or words. Yet the growth was at once too profound and too gradual to expect a modern college student to seize it simply by pursuing an isolated course in the classics in college. Through the mellowing influence of years of association with classical thought the end would doubtless be attained, but for the student in general education a more immediate and understanding approach is essential. The guidance of a sympathetic instructor is needed — one who, for instance, will point out that the analysis of the problem of imitation in art occupied the keen mind of Aristotle in antiquity. For when the student discovers by reading and discussion that Aristotle understood imitation to imply vicarious representation rather than exact copying, he will then realize how the emotions may be "imitated" in any number of media in which exact copying is manifestly impossible. The "Flight of the Halcyons," to take by way of illustration a somewhat theatrical title which I recall seeing on a program of interpretive dancing, might be portrayed by painting, sculpture, or music, as well as by dancing. The really important thing is the idea — the technique can be mastered by many but the thought approaches nearer to genius.

The objectives of general education are not new. The President of Harvard University in his most recent report [5] recalls a statement that he made in the corresponding document of 1942, "The heart of the problem of a general education is the continuance of the liberal and humane tradition." And in the same paragraph he repeats his contention that "a continuing general education is

[4] Alfred North Whitehead, *Adventures of Ideas* (New York, The Macmillan Company, 1933), p. 132.

[5] Harvard University, *The President's Report*, 1946, p. 9.

the answer to the question of how to humanize the professions." A similar point of view is inherent in the report of the President of Yale University,[6] where he quotes Professor Sinnott, Director of the Sheffield Scientific School: "Our purpose must be not only to advance the frontiers of science but so to integrate it with all other human activities that it will become a blessing and not a menace to mankind." The statement is an enlightened recognition of the unity of liberal culture in an age of atomic energy, but let us remember that even this is not new, for Cicero made fundamentally the same claim before the dawn of the Christian era: "All branches of knowledge that pertain to human kind have as it were a common unifying bond and are held together by a sort of blood relationship." [7]

This brings me at last to face the question of the type of course in the classics through which I believe that the greatest contribution to general education can be made. Frankly, that is a problem which seems to me less important than the recognition of the fundamental truths that lie within the classics themselves. If the instructor conceives it to be his duty to emphasize these at all times in his teaching, the results will care for themselves.

Yet I have no wish to avoid altogether a fair and practical question, and I shall attempt an answer in these terms, having in mind a student who will take but a single course in the classics in a curriculum built on a theory of general education. First, if the student has had some previous training in Greek or Latin and has a genuine interest in either language, he should elect a further course in that language in college. Such a solution will, of course, help only a comparatively small number and one must still deal with the nature of a course about classical antiquity. In this case I should build on existing foundations. That is, a course in ancient history, or classical archaeology, or Greek and Roman literature in translation, which has already been established in the college, can be made to meet the needs of general education by whatever modifications an enthusiastic instructor chooses to introduce into it.

If, however, a new course must be evolved, I should suggest that it be planned as a comprehensive survey of the civilization of Greece and Rome, embracing the history, art, and literature of each society. In a program of this nature the relationship of human genius to historical events can be appraised and the enduring values of a society which solved its problems by honest and fearless thought can be understood as principles with which to vitalize our own thinking and conduct.

[6] *Report of the President of Yale University to the Alumni*, 1945-46, p. 17.

[7] Cicero, *Pro Archia*, Chap. 1.

Basic Biological Science at Michigan State College

BY CHESTER A. LAWSON

IN THE spring of 1944 the faculty of Michigan State College established the Basic College and created seven new departments including the Department of Biological Science.

The purpose of the basic education program was determined by a faculty committee that reported as follows:

> Basic education, as proposed for Michigan State College, is designed to provide students with a sound foundation on which to build an intelligent interest in personal, family, vocational, social and civic problems, and a greater ability to cope with them. It includes the study of man's relationship to physical, biological, and social sciences, an increased knowledge of the historical background of present-day civilizations, and an enhanced appreciation of cultures, past and present, that have been expressed in literature, music and art.
>
> Basic education should give students an opportunity to explore broad areas; should aid them in the discovery of their own interests and aptitudes; and should equip them better to assume their responsibilities as individuals and as citizens of a democracy.
>
> Students whose training may eventually become highly specialized need this foundation of general educational experience that each may have a greater appreciation of the relationship of his special field to the needs of society as a whole.

The general and specific objectives of the biological science course as determined by a separate committee made up of biologists are as follows:

General objective: To motivate and guide the student in the development of an active interest in his position in the biological world.

In order to accomplish this purpose the student should acquire:

1. A knowledge and understanding of the individual organism as expressed by assimilation and utilization of energy; characteristics of growth; reproduction; adaptation to environment; structure and function; and aging and death.

2. A knowledge and understanding of cooperative and competitive interrelationships among plants and animals.

3. Skills and abilities in observation and organization of scientific facts; in the attainment of correct current interpretation and logical conclusions; in the clear expression of biological thinking; in the technique of experimentation; and in the application of the results of experimentation to the solution of everyday problems.

4. Attitudes and appreciations which lead to intellectual curiosity; clear thought processes relative to biological facts; an understanding of present and possible future achievements of science; recognition of, and willingness to be guided by, competent scientific authority; and perception of aesthetic values in nature.

During the summer of 1944 the newly appointed staff members worked feverishly to prepare a course for the opening of the fall quarter. A mimeographed syllabus was completed for the use of the teachers in preparing lecture material, and a laboratory guide was written barely in time to meet the thousand-odd students that descended upon us. The course is now in its third year of operation and has an enrollment of more than 4,000. We are using a third edition (printed) of the lecture syllabus and a third edition (printed) of the laboratory guide. Staff members have worked and are working constantly on revisions

to the course with the hope that all of the goals will be attained eventually.

The course occupies a full academic year of three terms for which the student receives nine credits. There are two one-hour lecture-discussion classes a week and one two-hour laboratory period a week. The student buys a textbook, *Elements of Biology* by Strausbaugh and Weimer, a "Basic Biological Science Lecture Syllabus" by Lawson, which is really a short text, and a "Guide for Laboratory Studies in Basic Biological Science" by the Staff. There is a weekly program of assigned readings in various source books. Quizzes and examinations are prepared by the biological science staff and given during the year, but the final grade for the entire year's work depends on a comprehensive examination which is prepared by a separate Board of Examiners and given at the completion of the course. Qualified students who receive special permission may take this comprehensive examination at the end of the first or second term, and if they make a grade of C or better on the comprehensive examination, they receive full credit for the course.

In developing the course the department has interpreted its function in the basic education program to be that of laying a foundation upon which all other educational growth may be built. It is assumed that the problems, perplexities, and conflicts of mankind whether personal, family, vocational, social, or civic are influenced in one way or another by the fact that man is a biological organism. No solution to any human problem will ever be adequate unless the fundamental biological nature of man is duly considered.

The task that the department is attempting to accomplish through the medium of the course is to interpret man in the light of his biological nature. To do this it is essential that the student have a knowledge of the whole living world. He must understand his position in relation to other living things. He must know and understand the fundamental biological principles, and he must understand the relation of these principles to himself as an individual and as a member of a social group.

To give the student a proper understanding of the world of life and of his position in this world, the traditional treatment of biology has been modified and integrated into a relatively simple pattern. This pattern is not arbitrary but is based on a few fundamental concepts that are applicable to any living thing. This pattern permits the selection of material from any and all specialized fields of biology, and in each case the field of specialization fits into the picture according to its function in relation to the whole.

The pattern of the course is as follows: (1) Kinds of Living Things, (2) Characteristics Common to All Living Things, (3) Maintenance of the Individual, (4) Maintenance of the Species, (5) Interrelationships, (6) Biological Evolution. Each topic is discussed in relation to the whole picture.

Under the heading "Kinds of Living Things" the student is introduced to both the diversity and the similarity of living organisms. This is the classification of traditional biology. The phyla of all plants and animals and the classes of the major groups are described. Man is placed in his proper position in relation to other mammals and primates. The relationship of all living things to each other is stressed and the fact pointed out that no organism, not even man, is distinctly different from any other.

The terminology of classification is restricted to what we consider the minimum necessary to carry across the concept of organization of groups. This policy of reducing the scientific terminology to the barest minimum is followed throughout the course, in order that understanding will not be impeded by unnecessary hurdles.

"Characteristics Common to All Living Things" presents the concept of the common structural pattern found in all forms of life. Protoplasm, cells, tissues, organs, and systems are described. The cells and tissues of man are described as an example of animal life, while the tissues of seed plants are used to represent the plant kingdom. The emphasis in this part is again the basic similarity of all living things. Man is pictured as one

type of organism having the same fundamental structural characteristics found in other forms of life.

The following two headings "Maintenance of the Individual" and "Maintenance of the Species" represent the two fundamental functions of all living organisms. Maintenance of life in the individual organism is a primary function that precedes in importance any and all other activities. A dead organism has no future, no hopes and no problems. Because this is also true of humans, it should not be surprising to discover that the majority of man's problems are related directly to the primary function of maintaining the life of the individual.

Under "Maintenance of the Individual" all the biological processes which result in a continuation of life within an individual organism are discussed. The similarity of these processes in all living things, including man, is stressed. The sequence of topics is (1) matter and energy, (2) kinds of food as a source of matter and energy, (3) the green plant as a source of food, (4) digestion of food, (5) metabolism or utilization of matter and energy within the organism, (6) transport of materials to maintain and coordinate the metabolic processes, (7) excretion of waste products of metabolism, (8) coordination of the parts of the individual and adjustment of the whole organism to its environment.

The functional viewpoint is used throughout; basic principles are emphasized and both plant and animal kingdoms are considered with respect to each process. In this way the student gets a picture of the similarity of all life and thus is able to understand better the significance of the processes within himself. It gives him good biological perspective and understanding to realize that he is not unique in so far as his primary biological functions are concerned.

Maintaining the life of the species is another fundamental function of all living organisms. If life is to continue it must reproduce. Again, this is true of man, and, again, it should occasion no surprise that reproduction takes precedence over many other activities of man. Many human problems stem directly from the reproductive activities, and their solution can come only through an understanding of both the significance of and the mechanism of the reproductive process.

The difference between asexual and sexual reproduction is explained. Sexual reproduction is treated in general as it appears in all complex animals. The following topics are discussed: (1) production of gametes, (2) transport of gametes, (3) fertilization, (4) external fertilization, (5) internal fertilization, (6) protection of the zygote, (7) nutrition of the zygote, (8) respiration of embryos, (9) waste disposal in embryos.

Hermaphroditism and parthenogenesis are described as modifications of the more usual form of sexual reproduction involving two sexes. This is followed by a detailed description of the anatomy and physiology of human reproduction and embryology.

The discussion of reproduction in plants is limited to a few examples of asexual reproduction and a description of the sexual process in flowering plants.

Heredity is the final topic under maintenance of the species. The relation between genes, chromosomes, production of gametes, and the inheritance of traits is explained. Following this are discussed: (1) the inheritance of a single pair of characters, (2) the inheritance of two pairs of characters, (3) lack of dominance, (4) penetrance, (5) sex determination, (6) source of variation, and (7) human heredity.

Under human heredity the inheritance of certain physical and mental traits are explained. The physical traits include, among others, skin color, blood groups, color blindness, and stature. The mental traits include mental deficiency, superior intelligence, and insanity. Emphasis is placed on the social significance of the correct understanding of the relative importance of heredity and environment to human mental ability and other traits. A table showing the mode of inheritance of sixty human traits is appended to the account of heredity in the syllabus.

A short discussion of the relation of the study of heredity to animal and plant breeding ends the section on reproduction.

"Interrelationships" includes the entire sweep of environmental effects. Organisms do not maintain themselves within a vacuum, nor do they reproduce in isolation. These two primary functions of living organisms are accomplished within the confines of a specific physical environment and in the company of many kinds and numbers of other living things. Furthermore maintenance of both the individual and the species can be accomplished only through the aid of the physical and biological environments. Plants cannot manufacture food without light, carbon dioxide, and water; and animals cannot live without the food produced by the plants, nor without the oxygen of the atmosphere. Life and the physical universe are so intricately interwoven that dependencies and interdependencies are bound up in an almost inextricable ravel of cause and effect. The topic of interrelationships attempts to unravel the web sufficiently to uncover some of the land marks. It attempts to place man in his proper niche in the environment and to show his relationship to other living and nonliving factors.

The interrelation of organisms with the physical environment is discussed. In this discussion is included the cycles of elements such as carbon and nitrogen, the major physical factors of the environment such as temperature, light, and water and a discussion of habitats.

"Interrelationships" also includes the interrelation of organisms with each other. Included here is the concept of plants and animals living in communities involving food chains, the fluctuating balance of nature, succession, competition, and cooperation.

Competition constitutes an important subheading under interrelationships. It is described as an important principle of animal and plant behavior that usually expresses itself as conflict of one sort or another between different kinds of organisms. For example, man competes with disease-producing parasites, and with insects, rodents, weeds, and microorganisms for food and shelter. Man also competes with his own kind.

The concept of man's competition with parasites introduces the subject of parasitism and disease. Under this heading we discuss (1) the nature of parasitism, (2) habitat of parasites, (3) host and tissue specificity, (4) susceptibility of the host to the parasite, (5) effect of parasitism on the parasite, (6) effect of parasitism on the host, (7) disease, (8) parasites that cause human disease, (9) how infectious diseases are acquired, (10) prevention of disease transmission, and (11) how the body defends itself against infection.

Under the heading "Competition for Food" microorganisms are discussed in relation to food spoilage and preservation; weeds are discussed in relation to food production, and insects and rodents are considered in relation to both food production and preservation.

Cooperation is interpreted as a form of group competition. This particular part of the course has not been developed to the extent that we wish. Our plan is to trace the history of cooperation among organisms, and particularly animals, from the simplest expression of it in flocks, swarms and herds to complex social communities. Among the latter we intend to include man's social organization. By this means we hope to give the student an understanding of the biological basis of modern society and to point to an understanding, if not to a solution, of some of the major human social problems. Biological conservation is one aspect of the cooperative principle and is discussed in relation to man's social needs. No society can endure that neglects its natural resources.

"Biological Evolution" includes the theories of the origin of life, the geological history of the earth, the story of evolution, the evidences of evolution, and the theories of how evolution has occurred.

The story of evolution begins with the invertebrate phyla, progresses through the vertebrate classes and ends with man. The sequence of vertebrate evolution includes ostracoderms, sharks, bony fish, lobe-finned fish, amphibians, reptiles,

birds, and mammals. The history of mammalian evolution is discussed through primates and man. A short discussion of plant evolution follows human evolution. In a future revision an attempt will be made to discuss the parallel evolution of plants and animals thereby giving a concept of the dependence of animal evolution on plant evolution, particularly in relation to the conquest of land.

Among the evidences of evolution primary place is given to the fossil record. The remaining evidence including taxonomy, comparative anatomy, comparative physiology, embryology, and vestigial organs is discussed in relation to the fundamental assumption that similarity of organisms indicates relationship and that the degree of closeness of similarity runs essentially parallel with the closeness of kinship.

The theories of how evolution has occurred include Lamarck's theory of the inheritance of acquired characters, orthogenesis and natural selection. The natural selection of new mutations is presented as the accepted theory.

A necessary addition to the course is the possible future evolution of man. This will include man's social evolution as well as his physical modifications.

The laboratory program of the course is being developed with one primary object in mind — to teach the student to think scientifically. In traditional biology courses the major emphasis has been on collecting more information or on accentuating by visual means information already acquired by the auditory route. Training in the use of the scientific method has supposedly been an important by-product but it has seldom been taught directly. Our laboratory program reverses the traditional method. We are teaching the scientific method directly by means of biological subject matter. Our first object is to train the student to think scientifically. If in the process he also acquires some biological information we are pleased.

Our purpose in concentrating on the scientific method is to give the student a method of thinking and a mental attitude that will be useful to him in his daily life. There seems to be some confusion concerning how training in a special laboratory tool can be transferred to general life stituations where conditions for its use are much less favorable. To explain our viewpoint the following excerpt is taken from the introduction of the lecture syllabus.

> A Science is a body of knowledge that is obtained by means of the scientific method concerning any part of the universe.
>
> In using the scientific method, one makes observations concerning natural phenomena. The results of these observations (data) are recorded, classified, and analyzed and from this information relationships are determined.
>
> The observations to be useful must be made with great accuracy. To increase accuracy various measuring devices are employed and the senses are extended by means of microscopes, telescopes, x-ray machines, and many other instruments.
>
> Results of the observations (data) are classified in an orderly manner. The order is developed in accordance with what man thinks is logical and meaningful. Facts that appear related are grouped together.
>
> The classified data are thought over in the search for relationships. It is here that the ability to think logically and brilliantly is of paramount importance. The great scientists of the past were great because they could see relationships not apparent to most men. Our modern "greats" qualify in the same manner.
>
> Formulation of an hypothesis is a technique of the scientific method that aids in the search for relationships or generalizations. The hypothesis is a statement of relationships that goes beyond known facts. It is made on the basis of too few facts to be accepted as proved and is no more than a reasonable guess concerning a possible relationship that seems to exist.
>
> The hypothesis must be tested, and this is done by the collection through observation of more data that relate to the hypothesis. This testing may include experimentation which is a controlled observation. In experimentation the emphasis is on the relationship between cause and effect. Two similar events are observed, both of which are exactly alike except for one factor. If the observed results of the events differ, the difference must have been due to the variable factor.
>
> An hypothesis that has been tested may still stand as the best statement of the relationship available or it may be found to be totally incorrect, in which case it is discarded. A revaluation of all of the facts including those brought out in the testing is made and a new hypothesis is stated. As a third alternative the original hypothesis may be partly correct and in need only of modification.
>
> A theory is an hypothesis that has withstood repeated

tests, but which has not been tested sufficiently to be accepted as true with a very high degree of probability.

A principle is a relationship or generalization that is supported by such a wealth of data that its truth is very highly probable. It must be emphasized that no scientific fact, hypothesis, theory, or principle is ever proved absolutely true. Scientific truth is a matter of probability. The hypothesis, being based on a few facts only, has the least chance of being a true statement of relationships. Further observation may easily show that the hypothesis is untenable. The theory has a greater chance or probability of being a true statement of an actual relationship because it is supported by more observations. The principle (law or doctrine) has the greatest chance of surviving as a statement of relationships among natural phenomena because it is the result of the accumulation of years of repeated observations and tests by many scientists. Because there are so many observations or facts that support the principle, the possibility that any facts will ever be discovered that disprove it is remote. However, the possibility always remains that such facts may someday be discovered. It should be remembered also that the relationships are man-made and are what seem to be logical explanations of the observed phenomena of nature.

The scientific method may also be used in everyday life. Every individual holds certain things to be true or false, good or evil. These are opinions and on the basis of them all people make decisions that govern the course of his life, and the welfare of the individual, his family and society as a whole depends on how well these decisions are made.

The scientific method is useful in arriving at opinions that guide the course of action. In terms of the scientific method the opinion is the hypothesis, and a person trained in this method will be aware of the basis (facts) on which the opinion (hypothesis) has been made. His degree of confidence in the opinion will vary according to the adequacy of the facts used in its formulation. An opinion based on many verified facts will be given more weight than one without much substantiation. When an opinion has been accepted it will not be accepted unconditionally, but further information will be sought in order to revaluate it. In terms of the scientific method the hypothesis (opinion) will be tested. If this further information supports the original opinion more confidence can be placed in it. However, if it disagrees with the opinion all of the information must be re-examined in order to formulate a new one. A new hypothesis is made to fit all of the facts.

A person using the scientific method is open-minded. He has the ability to view his opinions in the light of facts and is willing to change his opinions in the light of new information. Such a person also reserves judgment if after considering the facts he realizes that they are not sufficient for the formulation of an opinion.

Many people are faced with the necessity of making a decision without adequate information to do it scientifically. They may lack both time and facilities for gathering the needed information; but the decision must be made nevertheless. In such cases the scientifically trained person seeks the advice of some one whose opinions are based on adequate information. The ability to recognize a competent authority and the willingness to be guided by his opinions are very important factors in living more scientifically.

Our laboratory program is being developed with the following specific objectives in mind. First, to teach the student the accepted procedure for making a scientific investigation. Second, to give the student training in the use of the scientific method by asking him to use it in solving biological problems. Third, to aid the student in transferring the training so received to everyday situations. Fourth, to aid the student in securing biological information through direct contact with biological material. This fourth objective is the traditional objective of biology laboratories.

The first two studies (exercises) in the laboratory manual deal directly with some of the procedures used in a scientific investigation. The third and all following studies add to the student's knowledge of the scientific method and also give him training in its use through the solution of biological problems.

The first study is concerned primarily with observation by means of the microscope. We realize that training in the use of the microscope might not be the best introduction to training in observation. However, the student uses the microscope during the year and must learn to manipulate it. We decided that the best place for this learning was in the first laboratory period. To insure that the primary goal of observation is not lost the student is asked to solve simple problems by careful observation.

The second laboratory study continues the emphasis on observation and also illustrates other steps in a scientific investigation. The student is presented with a problem concerning which he has some information. It is "Are the differences between males and females restricted to the reproductive organs and functions?" On the basis of facts already generally known to the student the

hypothesis is made "that the differences between men and women are not restricted to the reproductive organs and functions but extend to all parts of the body." Each student then makes a series of observations on another student to determine weight, height, shoulder width, hip width and other physical traits. The data collected by all the class members is compiled and analyzed. Comparisons are made between males and females, conclusions are drawn and from these the individual class members re-evaluate the original hypothesis. The original hypothesis is then either accepted as supported or it is rewritten in the light of the additional facts.

Questions at the end of the study emphasize some of the pertinent points relative to the study. For example: (1) Upon what basis is an hypothesis made? (2) What is the criterion for judging an hypothesis to be true or false? (3) If an hypothesis does not fit the facts of repeated observations, which is wrong, the hypothesis or the facts? Explain. (4) How does the emotional attitude differ from the scientific attitude? (5) Outline the things you would do if you were to use the scientific method to decide for which vocation you should train yourself. (6) What might happen to race prejudice, religious bigotry, and superstition if all people were scientific in their attitudes and methods of thinking?

There has been some question concerning the advisability of using human differences as a subject for an introduction to the scientific method. The objections are based on the difficulty of getting clear cut results from the measurements of males and females, and also from the fact that such an investigation introduces the problem of statistical treatment of data too early in the course. Such objections are admittedly valid, but it is felt that the inherent interest of the subject compensated for its other lacks. Students are interested in themselves and a problem concerning themselves should have greater appeal than a problem on some purely academic phase of biology. Only experience, that is, scientific investigation can tell us which opinion (hypothesis) is correct.

The third study is on photosynthesis and all following studies correlate with the lecture syllabus material. These carry the student further into the use of the scientific method. He is taught the value and some techniques of experimentation, the meaning of facts, hypotheses, theories, laws and principles and finally an appreciation of the limitations of the method. All studies are written so the student must make direct observations on biological material; collect data from other reliable sources; analyze the data and draw conclusions from them. The student is asked to formulate hypotheses and to test them by further observation including experimentation. He is frequently requested to suggest two or more hypotheses to explain a given set of facts. One of these may well be the textbook explanation, but he must think for himself to devise a second logical hypothesis. The student is not asked for the correct explanation only, but for as many logical explanations as he can imagine.

The ideal toward which we are working in developing the laboratory manual is to lead the student gradually through the first few stages of his introduction to correct thinking. As he progresses through the year the problems are to become more and more difficult until at the end he is to work entirely on his own on a problem that will challenge his utmost ability. Also the student is to be urged constantly to relate the scientific method to his daily life. This part of the program has not been worked out very satisfactorily, but it is recognized that this transfer must be made if the program is to be successful.

Among the many difficulties encountered in developing the laboratory program one stands out as being of primary importance. This difficulty is to so motivate the student that he accepts the scientific method as his primary objective in the laboratory. Because we use biological material in the laboratory that correlates with lecture material, the student very easily falls into the error of thinking that the only objective of the laboratory work is to gather more information. This is natural because the student's past experience has been

of this sort and also because it is one of the objectives. The problem is to change the student's viewpoint so that he does not restrict himself to one objective only.

One solution to the problem is to give tests that actually measure the student's development in thinking scientifically. Another solution is to divorce the work on the scientific method from the visual aid-information gathering activities.

Both solutions are being tried. A testing committee is developing a series of examinations designed to measure the student's progress in using the scientific method and individual staff members are attempting to include questions requiring scientific thinking into every quiz.

A committee is also at work on a second scientific method laboratory manual. It is intended that this manual will be of such nature that a student by means of it can learn to use the scientific method without actual contact with the biological material normally present in a laboratory. Students using the manual would also attend a special museum type, visual aid laboratory where the sole objective would be to impart biological information.

When the manual is finished and a valid scientific method test is devised we plan to conduct a controlled experiment on a sufficient number of students to determine whether the combined scientific method and visual aid laboratory or the separate scientific method and visual aid laboratory is best suited for attaining the goals of our laboratory program.

Many other problems have been encountered all of which we hope to solve in time. As proponents of the scientific method we intend investigating the problems in a scientific manner and consequently we have a research program that will keep us busy for many years to come. Someday we may know the answers.